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BRITISH TRANSPORT
DIRECTORY OF OFFICIALS

For reference purposes "The Railway Gazette" has compiled a list of members of the Ministry of Transport, the British Transport Commission, the Railway Executive, the London Transport Executive, the Road Transport Executive, the Docks & Inland Waterways Executive, and the Hotels Executive, together with their principal officers, so far as they have been announced.

PRICE ONE SHILLING

THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1

F.B.I. Warning of Economic Crisis

THE Federation of British Industries has issued a forthright statement on the economic situation which it rightly believes is inadequately appreciated at the present time. It points out that we are now in grave danger of being unable to obtain the food and raw materials that we need, and that, unless some solution to our difficulties is found, it will soon be necessary to face further austerity and unemployment. Our visible exports from productive industry, together with the invisible exports, from such services as shipping, banking and insurance, must pay for the import of food and raw materials. Our standards of living, including social services, must be brought into accord with our ability to pay. To bridge the gap in the balance of payments, current imports must be paid for by increased exports sold under normal competitive conditions. Irrespective of the dollar gap, it is essential that Great Britain should put itself in a sound trading position with the rest of the world. The vast and menacing increase in State expenditure constitutes the inflationary influence in our whole economy. It is essential that every help should be given to reduce the costs of exports, for value for money alone will enable us to sell in overseas markets.

* * * *

Remedies Advocated

The F.B.I. urges a reduction in taxation, and therefore in Government expenditure. Out of every £ that the nation produces the taxgatherer now takes 8s. Profits are taxed even more heavily, and there is no opportunity to create adequate reserves. There is little inducement for companies or individuals to take the risks which the situation demands, and the high taxation now borne is itself a direct cause of high costs. Further relaxation in controls and less rigidity in the planning of the nation's economic life are also urged. It is necessary that the people as a whole should work harder without increasing cost of production. Essentials must be concentrated on, and such schemes as the nationalisation of iron and steel, which are irrelevant to the present crisis, distracting to those who should be concentrating on production and marketing problems, and damaging to our prospects, should be abandoned. The F.B.I. recognises that the programme it puts forward will demand effort and sacrifice from all sections of the community. Of itself it will not solve our difficulties, but without it no solution can be found. The measures suggested would help to bring down costs of exports and hasten the day when the country is again self-supporting.

* * * *

State Transport's First Year

In *The Financial Times* of August 12, reference was made to the pending issue of the accounts for 1948 of the British Transport Commission. It was stated that they are expected to show heavy losses for British Railways, and a figure of £30,000,000 was mentioned. It pointed out that the Transport Act envisaged the integration of the various forms of inland transport acquired by the Commission to form an undertaking to be worked as a whole, and with total revenue meeting total expenses taking one year with another. It went on to say that it was clearly of enormous importance to the B.T.C. that the profit-making section should be brought in as soon as possible to offset the loss on the railways. Of road passenger undertakings, the article commented that bus fares could not be raised at present to increase B.T.C. profits, as fares are subject to the licensing authorities, and any increase granted to B.T.C.-owned operators would merely place the independent companies in a more favourable position. The author of the article does not look for much profit from the road haulage part of the B.T.C. business. He refers to a general falling off in traffic amounting to 10 per cent., and a drop in rates of 10 to 15 per cent. over the last eighteen months.

* * * *

Further Criticism of Coal-Oil Conversion Scheme

In our May 13 issue we drew attention to the report of the Comptroller & Auditor General on the Civil Appropriation Account (1947-1948) showing how the decision of the Ministry of Transport three years ago to convert 1,200 locomotives from coal to oil burning without waiting for the detailed estimates of cost had resulted in a waste of £3 million. This abortive

scheme was launched on the initiative of the Ministry of Fuel & Power in the summer of 1946, when it was expected that supplies of coal would be short and oil plentiful for some years. Within a year, however, the Ministry of Fuel & Power had become doubtful as to whether it would be possible to obtain the necessary oil, while early in 1948 the British Transport Commission informed the Ministry of Transport that the extra operating cost would be over £3,500,000 a year, and that it did not favour proceeding with the scheme. The scheme was finally abandoned in May last year. Recently it has come in for further criticism in the third report of the Committee of Public Accounts, 1948-1949 (H.M. Stationery Office, 6d.). Criticism is made of the explanation by the Ministry that had the coal shortage materialised on the scale envisaged and the programme not been carried out, there would have been serious dislocation of rail traffic, and it is pointed out that the dislocation would have been no less serious if 1,200 locomotives had been out of action because there was insufficient oil.

* * * *

Royal Ordnance Losses on Railway Orders

The use of the Royal Ordnance factories to produce railway materials has not been markedly successful, and the third report from the Committee of Public Accounts also has some comments to make on this matter. It deals with the losses statement appended to the appropriation account of the Ministry of Supply under which was recorded the abandonment of the claim for £162,714 against the India Store Department for work done by the Royal Ordnance factories. The work consisted of the manufacture of 10,000 railway buffers to supplement trade supplies. It is noteworthy that no price was agreed and no formal contract was entered into. Subsequently, Indian requirements fell, but in an endeavour to avoid major labour difficulties, the Ministry of Supply persuaded the India Store Department to cancel trade orders rather than those on the Ordnance factories. After the order had been completed the Ministry presented invoices based on a cost of £24 11s. 3d. a buffer, but after negotiation agreed to accept £9 12s. 0d., which was the trade price of £6 8s. 0d., *plus* 50 per cent. Rather naïvely the Ministry explained that it should have known about the excessive cost and had price discussions earlier. The Committee of Public Accounts makes the restrained comment that it is "glad to learn that this was an exceptional case."

* * * *

Overseas Railway Traffics

During the month of June there was a £773,750 decrease in working expenses of the Canadian Pacific Railway, which accompanied by a £380,750 increase in gross earnings, brought a £1,154,500 improvement in the net earnings position. Working expenses amounted to £7,139,500 and the 1948 deficit in net earnings, which was £1,026,750, was converted into a balance of £127,750. On the aggregate, C.P.R. gross earnings are up by £3,601,500 at £43,809,000 for the current 26 weeks, and net earnings at £747,000, compare with a deficit of £41,000 for the equivalent period last year. After a £130,837 improvement in the week ended July 16, South African Railways receipts for the first 15 weeks of the present financial year were up by £2,395,772 at £22,452,661. Midland of Western Australia traffics for June were higher by £3,060, at £29,379 and finished the financial year 1948-49 at £350,879, or £56,127 higher than 1947-48. A further increase in International Railways of Central America receipts for June has improved the aggregate position by $73,006, but traffics for the 26 weeks still are down by $475,619, at $6,590,515.

* * * *

A Loan for East African Railways & Harbours

The East Africa High Commission has published a Bill for submission to the next session of the Central Legislative Assembly providing powers for raising a loan of £23,000,000 on behalf of the Railways & Harbours Administration. The loan will be secured on the assets and revenues of the transport system, now a self-accounting department under the direct control of the High Commission. This measure is not only the largest East African loan proposal but the first to be raised by a self-accounting department. Only £12,000,000 is for "new works," and only £3,000,000 of this is for what can be described as new projects. The balance is mainly for payment of work already completed or in hand, such as large orders for new rolling stock, important realignments in Kenya, and small branch lines in Tanganyika. The principal new project is £1,250,000 for two deep water berths at Dar-es-Salaam. There is also £1,000,000 to link the Tanganyika Central line at Morogoro with the Tanga line at Korogwe, but this will ultimately depend on the alignment chosen for the proposed railway from Rhodesia to Kenya, no provision for which is contained in the present proposals. It is possible, states *The Manchester Guardian*, that American private investors may take on such projects as the Rhodesia-Kenya link, but they "will not be moved by the political benefits of Colonial development. They will want a return on their money."

* * * *

Improved Passenger Train Punctuality

A recent Railway Executive statement that British Railways passenger services are more punctual now than at any time since before the war, shows that during the four weeks ended May 21, of the 608,146 passenger trains run, 94·3 per cent. arrived on time, or within 5 min. of their booked arrival times. The express services were 60·8 per cent. on time and 81·3 per cent. of them were not more than 5 min. late. Figures for all other trains on time were 79·1 per cent., and 94·8 per cent. when taking into account the 5 min. allowance. The improved position to a certain extent is the result of progress in removing speed restrictions necessitated by arrears in track maintenance, and can also be attributed to enginemen's increasing experience in the use of poor coal, rather than to any improvement in its quality. The constant efforts which are being made by the operating officers to impress locomotive crews with the need for punctual running and for making up lost time appear to be bearing fruit. These punctuality figures are for the period immediately preceding the introduction of the summer timetables, and fine weather conditions for the greater part of the month favoured operation.

* * * *

Passenger Transport in Glasgow

As foreshadowed in a recent Parliamentary reply, the British Transport Commission has appointed a committee to report on the transport requirements of Glasgow and adjacent areas, and to make recommendations to the Commission. The Chairman of the committee is Sir Robert Inglis, who was Divisional General Manager, Scottish Area, L.N.E.R., from 1941 to 1946, but was released to the Government in 1944 to serve as Chief of Transport in charge of railway, road and inland water transport, docks and shipping in Germany. The other members are Mr. Robert Beveridge, Mr. I. R. Frazer, Mr. F. A. Harper, Mr. A. F. Moss, and Mr. H. R. Statham (see also page 219). The committee will have regard to the future trend of commercial and residential development in and around Glasgow and to the planning proposals of the local authorities and of the Clyde Valley Regional Planning Advisory Committee. It will make recommendations to the British Transport Commission as to any improvements or developments of the present services and facilities now controlled by the Commission, or by the Glasgow Corporation, which appear necessary or desirable in fulfilment of the policy of integration of inland transport as laid down by the Transport Act, 1947. The committee, the appointment of which has been made with the concurrence of the Minister of Transport in consultation with the Secretary of State for Scotland, will work in close co-operation with the Corporation of Glasgow.

* * * *

The Accident at Bainton Crossing

A summary of Brigadier C. A. Langley's report on the accident which occurred on November 23, 1948, at Bainton level crossing, London Midland Region, appears elsewhere in this issue. The gatekeeper had forgotten apparently that the up block section in rear had been reduced by two miles after the opening of a box since the acceptance of a train, which she had asked about 10 min. previously. Unfortunately the block must have been changed to "train on line" the moment after she consulted the gatehouse indicators for the second time, and the train was then hardly half a mile away. It was very foggy, and the gatekeeper was taken completely

unawares by the train and killed. Undoubtedly the opening of a box can produce a misleading effect at times, and it is most undesirable that the length of a block section should be altered—especially shortened—without a gatekeeper being distinctly warned. In a short section, too, the "in" warning can have its value dangerously reduced by dilatory forwarding or acknowledging of "entering section," both more commonly met with than they ought to be.

* * * *

Locomotive Cleanliness

In recent issues of *The Railway Gazette* there has been a number of Letters to the Editor referring to the standard of cleanliness of locomotives. The views of two correspondents are given elsewhere in this issue. In some cases comparisons have been made between examples on one Region as against another. It does not necessarily follow, of course, that an observer is in a position to get a good general appreciation of the standard of locomotive cleanliness achieved throughout a Region. The basic difficulty in maintaining a high standard of locomotive exterior appearance is acute shortage of staff for the purpose. On the Western Region, for instance, where a correspondent stated he had seen some bad examples, the total manpower available for engine cleaning is not more than one third of the proper establishment. The shortage is spread over the whole system, but naturally at some depots it is more acute than at others; at one, indeed, there is only one cleaner instead of the twenty or more which would be considered reasonable, and there is little likelihood in present circumstances of obtaining additional recruits. At another large and important depot the establishment is only about one-sixth of what would be considered normal. No doubt in other Regions similar conditions exist.

* * * *

Lodging Turn Strikes Again

THE recrudescence of the threat to stage Sunday token strikes by locomotive crews in the North Eastern Region has brought back into prominence the question of the lodging turn arrangements agreed by the Railway Executive and the union representatives of the drivers and firemen. At Grantham, where the present dispute originated, it seems that a driver and fireman who were booked to bring a train south, stay in London overnight, and work back another train, returned as passengers to their home depot, where they reported for duty the next day. No work was available for them, as they had been expected to be available at Kings Cross. This has been described by the men as "victimisation"—an accusation rightly refuted immediately by the Railway Executive.

Two other causes have been adduced for the calling of the strike—the introduction of new lodging turns after the Grantham local departmental committee had said it would not work any more, and the action of the Executive Committee of the Associated Society of Locomotive Engineers & Firemen in agreeing to these turns without the consent of the men. Endeavours were made by the Grantham strike committee to secure the support of other depots, but apart from the York depot, the response was slight, and there was little interruption of services last Sunday.

Throughout the lodging turn controversy, which was at its height in May and June, the locomotive men in the North Eastern Region have been the principal complainants and the most ready to refuse to carry out a normal feature of railway operation on long distance routes. Whether there is some special reason why the North Eastern Region crews are less willing to operate these turns, has not been made clear. To the public, which is the principal sufferer from cancelled Sunday trains, is due a much clearer statement of the men's reasons than has been forthcoming so far. If it proves to be merely a disinclination to be away from their homes for a night once or twice a week, it can hardly be expected to evoke a wide measure of sympathy from the many workers whose normal occupations call for equally or far more frequent absences. If the North Eastern Region men are so much more attached to their domestic amenities than railwaymen in other Regions, and workers in other industries, it is a matter of considerable sociological interest.

The Railway Executive has acted reasonably and with restraint on the facts of the dispute as stated by the strike committee. It discussed and agreed the lodging turns with the Executive Committee of the Associated Society of Locomotive Engineers & Firemen. That body consists of democratically-elected representatives of the men and, as such, its agreement should be honoured by the local organisations. If "organised labour" is to have any meaning it must provide for the keeping of agreements reached by its spokesmen. The suggestion behind the action at Grantham is that before any lodging turn is introduced, an individual depot must be consulted and its agreement secured. Once that principle was accepted, it would not be confined to lodging turns or to one category of railway worker. The union executive committee, if required at all, would be merely a post office.

The basic principle at stake in the lodging turns strikes, as in so many recent stoppages, is the ability to maintain discipline by the union executive. The increasing tendency of the tail to wag the dog in labour matters has been noted with disquiet by many responsible trade union representatives. In part the difficulties being experienced in securing a loyal adherence to decisions reached by trade unions at the top level is caused by disappointment among the rank and file at the status they enjoy in nationalised industries. For this the extravagant promises of their leaders of the benefits which would accrue under a system of State ownership are to blame. Reality is proving very different from the rosy dreams which were entertained in pre-nationalised times. Trade union members were the keenest advocates of nationalised transport. In many cases they are showing less willingness to co-operate in making the experiment successful than the senior staffs who were opposed to its introduction.

* * * *

Western Pakistan Railway Reorganisation

THE reorganisation of the Pakistan railways described in our issue of June 3 concerned mainly the system of Eastern Pakistan, known as the Eastern Bengal Railway. The second and much larger system is the North Western Railway, lying in its western part. The two Indian railways which were partitioned on August 15, 1947, were the Bengal & Assam Railway and the North Western Railway. The former was dismembered, and the portion lying in Eastern Pakistan was given the new name of Eastern Bengal Railway. As most of the North Western Railway lay in Western Pakistan, it retained its old name after parting with that portion, equivalent to about a quarter of its route mileage, which lay in East Punjab, India. Even after its partition, the N.W.R., with a route-mileage of 5,362, is still the largest railway system in the Indo-Pakistan sub-continent.

Like the partition of India, the partition of the N.W.R. was planned in the very short period of less than two months. In spite of the fact that many difficulties, such as the division of a railway system to suit the boundary fixed with no regard to the railway operation, or the exchange of many thousands of officers and staff between the railways in India and Pakistan, had to be smoothed out, this hurriedly prepared plan was a good one, and aimed at the execution of this momentous task without disrupting the working of the railways. It spread over a period of time the transfer of the railwaymen from one country to the other, and prepared links for the working of traffic over sections which lay partly in India and partly in Pakistan. The authors of the plan could not know that the widespread disturbances which began in the Punjab a few days before the partition (August 15, 1947) and spread to Delhi and beyond, would make its carrying out impossible.

A few days before the partition, the non-Muslim officers of the N.W.R., who formed the bulk of the cadre, left the railway. They were replaced by officers who had come from seven different Indian railways and were quite new to the N.W.R. They had hardly settled down when the disturbance broke out, and about 28,000 non-Muslim railwaymen left their posts to migrate to India without waiting for their reliefs to arrive. At the same time the N.W.R. was called on to transport millions of refugees from one country to the other and to work under the most disturbed conditions. In such a situation many a well-established railway system would have been paralysed, but the wheels never stopped moving on the N.W.R. because of the determination of the officers

and staff who had opted for service on Pakistan railways to stick to their posts at all costs and to do their best to prevent the collapse of the State which had just then been created.

Some idea of what the N.W.R. did can be gained from such examples as the quick reorganisation of the "cash-and-pay" branch after the sudden departure of the non-Muslim contractor-in-charge and his staff, and the running of some 900 special trains during the most disturbed period of August to December, 1947, for transferring nearly 2,000,000 refugees.

As soon as the task of transporting the refugees was over, energies were devoted to the restoration of normal peacetime working and to the rehabilitation of the various assets, chiefly the rolling stock. A great handicap to the former was the irregular supplies of coal; and to the latter the shortage of stores. Despite these handicaps, the N.W.R., during the last financial year, April, 1948, to March, 1949, increased the number of its daily passenger trains from 72 to 182 and collected Rs. 24,000,000 (Rs. 1,000,000 equal £75,000 or $300,000 approximately) as its gross earnings. This figure is about 41 per cent. higher than the gross earnings of the pre-war year of 1938-39 and about 14 per cent. higher than the average gross earnings during the peak traffic years of 1940-47 for the corresponding sections of the N.W.R. The Engineering Branch proved its efficiency when it was called on in August, 1948, to fight the Indus flood, which cut off all rail communications with Quetta. So well did it carry out its task of fighting the flood and later of restoring the damage, that communications remained interrupted for about three weeks only, no mean achievement when it is realised that on similar occasions in the past it took months to restore them.

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Railway Passenger Traffic in U.S.A.

THE U.S.A. railways are finding the development of passenger traffic a knotty problem. They are no nearer a solution than are British Railways. During the first five months of 1949 passenger receipts decreased from $368 million to $353 million, or by over 4 per cent. The fall was heaviest on lines west of the Mississippi, but the Eastern railways have applied for a 12½ per cent. increase in fares, on the ground that ever-growing expenses make business at existing charges unremunerative. Last year there was a deficit of $500 million at least on passenger operations; the loss on restaurant and buffet-car services alone was $31 million, even when cost of haulage and overheads were excluded from the reckoning.

The Pennsylvania Railroad, which is the largest passenger carrier in the States, does not favour the cheap-fare policy adopted by British Railways in the hope of retrieving the position. The Pennsylvania calculates that low fares, together with a large volume of business, would not overcome the cost burden of after-war years. Working costs have been inflated by large expenditures on streamline trains and other improvements aimed at attracting the public to rail service. Some luxurious trains installed recently weigh nearly 1,000 tons; the deadweight hauled for each paying passenger is about 2 tons. These trains, manned by large crews, run at high speeds on routes noted for stiff gradients. Picturesque railroading and no mistake, but how far it benefits net revenue is problematical.

During the first quarter of this year, first class passenger miles on the U.S.A. railways, which represent travel in parlour and sleeping cars, decreased by 7·6 per cent. from 1948. The Pullman Company, now owned by the railways and engaged in managing the pool of sleeping cars, had a deficit of $351,000 for the five months to May, in contrast to a net income of $1,250,000 in the corresponding period of 1948. The number of cars in service fell from 4,484 in January to 3,737 in May, a reduction of 16·6 per cent. Paybill costs are about two-thirds of the Pullman Company's total expenses and will be higher by nearly $10 million in September, when a 40-hour week for all employees takes effect. Since the war, the railways were disposed to extend sleeping car facilities, but may be forced soon to cut out more services which cannot make ends meet.

A 15 per cent. tax on passenger fares, imposed as a war measure, helps to discourage rail travel. President Truman has recommended to Congress the repeal of a similar tax on goods transport charges, and there are equally strong reasons for cancelling the impost on fares. During the last 10 years, the railways have withdrawn passenger trains from some 11,600 miles of line. At the present day 66,000 miles in all are open only for freight traffic. That is 29 per cent. of the total U.S.A. route mileage.

The main cause of the wholesale abandonment of passenger movement has been the public's preference for travel by bus, motor coach and private motorcar. After the war, domestic airlines also began to make inroads on first class travel, increasing their share from 11 per cent. in 1945 to nearly 35 per cent. in 1948. In the first quarter of this year air carryings were up 15·5 per cent. on 1948.

The Association of American Railroads maintains that air fares are below operating costs. The planes are, it urges, kept in the air by means of State subsidies, which at times take the form of excessive payments from the Post Office for mail transport. For carrying 18 times as much letter mail as the airlines in the fiscal year 1948, the railways were paid $15 million less. Air Transport has come of age in the States. It employs nearly 1,000 aircraft on domestic flights, but is not self-supporting. A Government enquiry into the complicated arrangements for financing air carriers would be in the interest not only of the railways, but also of the American people, who might be seriously inconvenienced if unfair air competition brought about a further extensive curtailment of railway passenger services.

* * * *

French Railway Situation Reviewed

M. PIERRE TISSIER, the new President of the French National Railways Board, reviewed the situation of the S.N.C.F. in all its phases in a lengthy statement to the French press on July 20 in reply to criticism in recent parliamentary debates. He dealt fully with finance and the railway deficit for 1949, which he estimated at fr. 50,000,000,000. Some critics had put the deficit at fr. 184,000,000,000, but such a high total, he said, was erroneous and could be arrived at only by confusing budget credits and Treasury operations. He pointed out that a clear distinction had to be drawn between investment and operating expenditures.

Parliament had voted fr. 70,500,000,000 for reconstruction and equipment. This had no connection with the operating deficit. It represented no more than half the reparation for war damages. The S.N.C.F. had effected only 60 per cent. of the reconstruction and, like other claimants, had financed 20 per cent. of the cost itself. Another sum voted was fr. 11,600,000,000 for supplies by the Import & Export Bank, representing mainly purchase of locomotives and wagons indispensable for the resumption of traffic. A further vote, fr. 8,120,000,000, was a compensatory indemnity for reduced fares granted by the government to large families and holders of workers' holiday tickets. The actual cost of these reductions to the S.N.C.F. was fr. 12,000,000,000.

Treasury advances totalled fr. 60,000,000,000. The advances were due under Article 27 of the 1937 Convention, by which the S.N.C.F. was constituted, and are to meet payments falling due before corresponding earnings have been received. The S.N.C.F., in fact, needs its own treasury, like the railways which it took over. The present condition of the money market makes it impossible for the S.N.C.F. to finance such payments by short term bonds, but it is hoped to obtain banking facilities which will lessen the need for such provisional advances. For years the S.N.C.F. has not been authorised to issue a long term loan, and short term financing is impossible because the French Treasury has drained the market of all available funds. In reality, the State and all its nationalised, and State-aided enterprises have a joint exchequer, to the detriment of the S.N.C.F., which is unable to make use of its own credit. M. Tissier adds that all his efforts, since taking up his present post, have been directed toward restoring to the S.N.C.F. an autonomous treasury.

The only State grants corresponding to an operating deficit, according to the President, are the fr. 50,000,000,000 accorded under Article 18 of the 1937 Convention. When there is an operating deficit of 5 per cent., the S.N.C.F. must raise its rates to meet it. If the government withholds permission to increase them, it must ask Parliament within two months to vote a compensatory indemnity. This is what has happened in the revision of the estimates this year. The real causes of this

deficit, apart from failure to raise railway rates, are of three kinds: increased taxation, losses on Paris suburban traffic and on many main line passenger trains, and the sharp decline in all railway traffic. Contrary to widespread opinion, the S.N.C.F. pays taxes like all private enterprises. For 1949 the taxes amount to more than fr. 29,000,000,000. This means that the S.N.C.F. repays to the nation three-fifths of the compensatory indemnity.

The loss on Paris suburban traffic in 1948 was fr. 7,800,000,000 without any allowance for renewal of rolling stock. For one hour in the morning and one in the evening every working day, the S.N.C.F. must transport nearly a million passengers for short distances in one direction only. At times, 1,000 passengers a minute arrive at St. Lazare Station. For the rest of the day the rolling stock and staff are virtually idle. To transfer the traffic to the roads is impossible, as it would call for a fleet of 8,700 road vehicles. Increased taxes and suburban losses together account for more than fr. 36,000,000,000 of the deficit.

The third and still more serious cause of the deficit is the sharp decline in general railway traffic since January, 1949. Traffic fell off 8·8 per cent. in February, in March, 12·4, in April, 15, in May, 19·8, and in June, 20 per cent. Because of the lack of cars and petrol, the railways had almost a monopoly from 1940 to 1948, but every day since they have had to face competition by road and by air.

In regard to capital outlay, the President admitted that mistakes had been made. In aiming at technical perfection financial considerations sometimes had been overlooked, but it was only just to remember the railway situation immediately after the Liberation. The authorities had called on the S.N.C.F. to restore railway traffic to its pre-war condition at no matter what cost. The rapid recovery in the general economic situation of France was due largely in the first instance to the speedy restoration of railway traffic by the S.N.C.F. In this great work it had actually effected economies, reducing the programmes of the Monnet reconstruction plan, carrying them out only to the extent of 60 per cent. For the future, measures have been taken to control market operations and supplies.

On reduction of the wage bill, the President said that wages were far from being too high and that only by limiting the number of new workers taken on could any reduction be made. Even then care must be taken to maintain the apprenticeship centres, which, he said, made French railway workers the best in the world. In 1938 the number of railwaymen was 515,000 and by the end of 1949 it would be reduced by 45,000 to 470,000.

In addition to capital outlay for reconstruction, the S.N.C.F. has to undertake profitable expenditure for modernisation and improvements including: electrification, replacement of steam by diesel locomotives, reorganisation of marshalling yards, installations for accelerated goods traffic, railcar construction, and signalling. In this connection, the President mentioned that recent measures adopted to cut down expenditure included postponement of electrification works between Dijon and Lyons on the former P.L.M. main line, with the result that coal and fuel oil will be needed for years on that section instead of electric power, entirely home-produced and less costly.

The President estimated that the total abandonment of goods and passenger traffic on 6,200 miles of secondary lines would mean an annual saving of fr. 7,000,000,000, involving a direct revenue loss of fr. 3,500,000,000 and thus effecting a net economy of fr. 3,500,000,000. Unless, however, the traffic taken over by road hauliers reverted to main lines at former junction stations, the loss to the main lines might be six or seven times as great. The S.N.C.F. is aware that the closing of even the poorest lines would meet with strong opposition from municipal and parliamentary representatives and, in any event, it is determined to seek and apply more rational operating methods on such lines. It would close most of the stations and replace trains by light railcars.

The entire question of rail and road co-ordination is discussed at length, as a problem awaiting an early solution. Road hauliers, it is claimed, should be bound to the S.N.C.F. by precise contracts and the transport responsibility with regard to third parties should rest with the S.N.C.F. The reply to demands that the S.N.C.F. should close its own workshops would be an emphatic refusal. By executing certain work itself, the S.N.C.F. has a means of checking the invoiced costs of manufacturers and contractors. Such control is not always available. The S.N.C.F., for instance, consumes 1,000,000 tons of fuel oil, and can obtain a discount from the oil companies of only 2·5 per cent. The same argument applies to coal, for which the S.N.C.F. pays the same price as the small user.

During the debates, the S.N.C.F. was represented as losing money through its 102 "subsidiaries." The statement explains that the so-called subsidiaries reduce to 97 financial holdings, mostly inherited from the old railway companies. Of these, 73 are minority holdings, 14 consisting of companies in course of liquidation. The funds invested in the 73 amount to no more than fr. 151,000,000. The other 24 real subsidiaries comprise 16 companies in the form of building societies to construct cheap dwellings much below current costs. Other subsidiaries are directly connected with operating the railways. The entire output of the Société Hydroélectrique du Midi, for instance, is reserved for the S.N.C.F. Three other very profitable companies are the S.T.E.F. (refrigerator wagons), S.G.W. (large capacity wagons) and the S.C.E.T.A. (truck and autocar company). The S.N.C.F. also works a forest in the Gabon territory of French Equatorial Africa, which provides sleepers at far below ruling market prices and makes a profit of fr. 12,000,000. It also owns the old steamer fleet of the Paris-Orleans-Midi Company. This is leased for trade with Equatorial Africa and will be liquidated on the expiration of current contracts. A coaling fleet carries two-thirds of the coal required by the S.N.C.F. and made a profit of fr. 175,000,000 in 1948. The Channel fleet, worked jointly with the vessels of the British Railways, brought in fr. 107,000,000 in 1948. The financial holdings realise substantial profits, and liquidation would only worsen the situation of the S.N.C.F.

* * * *

German Railways Freight Rates

THE German Permanent Tariff Commission, which was re-established in the three western zones of Germany in December, 1948, recently has recommended readjustments in the freight tariffs of the German Railways in the British, American, and French Zones, largely to combat the competition of other forms of transport, and more particularly of the roads. The proposals embody a decrease in the higher class rates for wagon-load traffic, and slight increases in the lower class rates. This entails important reductions in rates for finished and semi-finished manufactured goods, whilst the rates for raw materials and bulk commodities of lower value will be increased so far as is necessary to maintain revenue.

The following figures show the extent of the proposed rate revision in relation to a distance of 200 km.:

Rates for Wagon Load Traffic (consignments of minimum 15 *tonnes*)

Classes :	A	B	C	D	E	F	G
	(Rates in Deutsche Marks per *tonne*)						
Present ...	28·00	25·20	21·40	18·10	15·00	12·20	9·70
Proposed ...	21·40	20·20	18·80	17·60	15·20	12·60	10·30
Increase or decrease per cent.	−23·6	−19·8	−12·1	−2·8	+1·3	+3·3	+6·2

The Commission recommended also the alteration *pari passu* of exceptional rates based on the normal class rates, and of class rates for minimum five- and ten-*tonne* consignments, also of terminal charges, which are included in the rates.

Although there is a large discrepancy between the revenue and working costs of the German Railways in the three western zones, the management does not intend to raise rates generally as a preliminary measure to improve the financial situation. Whether an increase will prove necessary will depend mainly on the development of traffic in the near future. The railways will try to balance their accounts by rationalisation, reduction of various burdensome payments exacted by the State (amounting to D.M. 174 million per year), increase in unduly low exceptional rates, and if necessary by a complete or partial abolition of the tax on transport charges. If relief from State burdens and taxation proves impossible, an average increase in rates of perhaps 15 per cent. will be necessary.

The proposed alterations are subject to the approval of the competent Governmental bodies, which the German Railways hope to obtain in time to effect the alterations in rates by October 1 next.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

The Future of the Rural Branch Line

80, Longmead Avenue,
Bristol, 7. August 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In connection with Mr. William B. Stocks's letter on the future of rural branch lines in your July 29 issue, I do not think we shall see many more branch lines eliminated. A good many of those surviving have their junctions at fair-sized towns and should be able to pay their way now that cheap day and half day tickets to neighbouring towns are in operation.

The rural branch lines with the doubtful future are those which radiate from purely rural junctions, good examples of which are Ashchurch to Great Malvern, and Little Somerford to Malmesbury, both with the sword of Damocles hanging over them. The lines which serve seaside towns can also be considered safe irrespective of the situation of their junctions.

There certainly is a charm about rural branch lines. So many have their eccentricities, such as the Looe branch where the train reverses at the intermediate station of Coombe Junction, or the Princetown branch where it is possible to alight at one halt, walk across the moor, and rejoin the same train at the next halt. The branch termini so often have their curiosities; there is, for example, Fairford with its V-shaped signal cabin, and Hemyock with its wealth of gravity shunts. Then there are the surprises; the branch terminus at Coalport (London Midland Region), despite its name, is situated on one of the loveliest stretches of the Severn, and in industrial South Wales one has the Old Ynysybwl branch which ends in the tiniest of halts in a setting that would not disgrace Devonshire.

These are just a few of the rewards that come to those who explore the byways.

Yours faithfully,
J. F. BURRELL

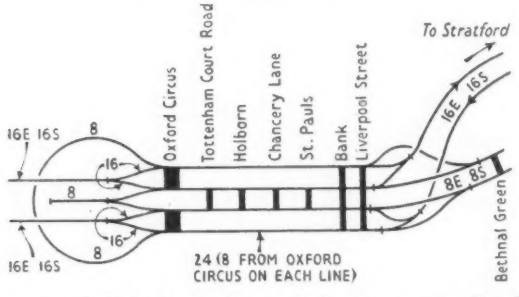
An "Express" Central Line

110, Wynnstay Road,
Armadale, S.1.
Victoria, Australia. June 19

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It seems that the traffic during rush hours on the Central Line has exceeded all expectations, primarily because of the "interchange" facilities provided at Mile End and Stratford, and also through station stop-time being excessive at interchange stations such as Oxford Circus, Tottenham Court Road and Holborn.

It is suggested the services be divided, by providing an "express" line from Oxford Circus to Bank and to Liverpool Street, where a branch could connect with the Eastern Region



Suggested Oxford Circus-Liverpool Street "express" tube

near the Bethnal Green Station of that Region. At this point it might be possible to bring the Central Line to the surface to make platform connection with the electric service to Shenfield, or, if not physically possible, an escalator connection with platforms on the electric line, which would have to be built.

The present frequency on the Central Line is, I think, 32 trains per hour. It is suggested that there should be 24 trains per hr. "express" and 24 "slow," which would mean one train every 7½ min. for the "express" line and one every 7½ min. for the slow line *starting at Oxford Circus*; 32 trains an hour would run from points west of Oxford Circus, 16 to the fast line and 16 to the slow. Every third train on each line would run to Bethnal Green to connect with the Eastern electric line, the other two trains on each line would run through Mile End and Stratford to the Newbury Park and Loughton lines, making a service of 32 per hr. for these lines, and 16 for Bethnal Green.

Advantages would be that the present service would be free from the Eastern interchange at Stratford, and relieve to some extent the overcrowding at stations east of Oxford Circus by the provision of the "express" service from Oxford Circus and stations west of it. There would be a frequency of 2½ min. on each line from Oxford Circus to Liverpool Street.

Yours faithfully,
W. A. SHEPHERD

[Any new tubes in Central London will make some contribution to London transport problems. Duplication schemes such as our correspondent's can be designed, with equal if not greater merit, for almost any London underground railway with great peak hour congestion. A relief to the heavily-taxed Piccadilly Line between Finsbury Park and the West End appears more deserving than a relief for the inner section of the Central Line, and it is doubtful whether the traffic between East London and Oxford Circus alone would justify a separate tube. The influx of interchange traffic into the westbound Central Line at Mile End is partly counter-balanced by a corresponding interchange traffic from the westbound Central Line to the District Line. A dead-end at Bethnal Green would serve no useful purpose not also achieved at Liverpool Street. The inter-working of trains at Oxford Circus and Liverpool Street would be complicated. The proposed capacity of 24 trains per hour on each track is considerably below the present actual peak-hr. service of about 32 trains per hr. New tubes should preferably open up new facilities, rather than follow existing lines, so as to attract traffic at all times of the day and make a greater contribution to the relief of street congestion. This point has been rightly stressed by the London Plan Working Party whose report was recently published and among whose many recommendations are two new City-West End tubes beneath Fleet Street and the Strand.—ED., *R.G.*]

Railway Standards

3, Lake Close, Lake Road,
Wimbledon, S.W.19. August 15

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the correspondence on clean and dirty locomotives, labour troubles are common to us all. Other enterprises have put their problems in order by pinching staff from other organisations! However, it is very nice to be invited by Mr. Savill to join him in helping to keep "our" locomotives clean—very noble and honest work. If British Railways had a more enlightened recruiting campaign among those interested in railways, it might have the desired effect by soon having clean locomotives—providing a reasonable chance be given to promotion, by means of a well-organised course of cleaning and general locomotive instruction. Railway history tells us it takes a long time to become a fireman, and, for the honourable position of locomotive driver (with the privilege of blowing the whistle when the spirit moves him and being photographed with a dazzling film star on the footplate), it seems to take a young man many years.

During the war, at least one lucky bank clerk was in the right place at the right time, and with his theoretical knowledge soon became an Army engine driver, proving that it is possible to turn an amateur into a professional by means of lectures and courses. He is now back in the bank with happy memories, keeping a mental balance looking at locomotives—another keen railwayman lost to British Railways!

This brings forth the suggestion that a small committee of fatherly railwaymen should co-operate with the Royal Army Educational Corps, in interviewing prospective railwaymen in the armed services in Germany, Trieste, Greece, and the Canal Zone. A similar scheme worked very well in the late C.M.F., Italy, in connection with a drive to recruit suitable schoolteachers.

Yours truly,
RONALD SHEPHARD

33, Upper Belgrave Road,
Clifton, Bristol, 8. July 29

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It is gratifying to know that one's critical views on railway standards today, particularly in regard to filthy locomotives, are shared by many other of your correspondents.

Mr. H. C. Casserley, in his letter of July 19, makes a point which has also occurred to me. He writes: "How often does one encounter a dirty omnibus?" The accent, I think, is on the word "dirty"; in other words, buses have their regular

"wash and brush-up" during out-of-service hours. This presupposes an adequate garage staff for cleaning and maintenance.

I have always understood that an engine-driver serves his apprenticeship first as a cleaner, then fireman, and so on to driving duties. Then what does an engine-cleaner do?

May I put the question another way? Is the work on cleaning a locomotive such that it requires not only engine-cleaner apprentices, but running-shed or depot maintenance men as well? And, if so, is there a serious shortage of this grade of railway worker, which would explain in part why there are so many dirty locomotives on our railways today. If this is not the explanation, I regret that I must again suggest what I wrote in my previous letter—that it may be due to a "couldn't-care-less" attitude.

I am not old enough to remember a great deal about the old railway companies as they were before 1914. I can still recall, however, as a boy of 12 or 13, leaning against the railings outside Ashley Hill Station, Bristol, and watching the South Wales, West to North, or "Ocean Mails" expresses of the G.W.R. pounding bravely up the stiff bank between Stapleton Road and Filton. There was no difficulty in reading names or numbers in those days! One might, perhaps, see a rather shabby "Dean Goods" banking a heavy coal train, but the big 2-8-0 tanks at the head were always reasonably clean. I also remember the neat and clean appearance of the little tank engines (were they Drummond 0-4-4?) which used to haul the South Western trains between Barnstaple Town and Ilfracombe.

Would it be true to say that in those days, and under private ownership, the whole spirit of the railway companies, from the highest officials to the youngest engine-cleaner, was different—that there was more pride in their job, greater keenness for work, than there is today? And would that keenness, that pride in the job be 100 per cent. in evidence again if all the present demands of railwaymen as to rates of pay and hours of duty were or could be met? I wonder!

Yours faithfully,
RALPH L. WILKINS

[See editorial note on page 203.—ED., *R.G.*]

The Rhaetian Railway

70, Rowlands Avenue,
Hatch End, Middlesex. August 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Having just returned from another visit to the Engadine, during which I spent more time than previously in a close inspection of the Rhaetian Railway and its engineering, I was greatly interested in the article on the subject in your August 5 issue. One cannot help being impressed by the efficiency and punctuality with which the long single main line from Chur to St. Moritz is worked, notwithstanding the extreme severity of the gradients, which make it necessary to lift the trains 3,885 ft. in the 39¼ miles between Reichenau-Tamins and Preda alone. Such timings as 46 min. over the 20½ miles between Filisur and Samedan, with a stop at Bergün included, are astonishing when it is considered that the locomotives, without assistance, are required to work 10-coach trains of nearly 200 tons weight up or down a 1 in 29 gradient nearly 14 miles in length.

The engineering over this section must be seen to be believed. One might imagine from your article that the ascent immediately above Bergün is mainly in spiral tunnels; actually it is a very beautiful piece of railway development work on the open mountainside, in which the engineers have used every possible natural foothold to dispense with all major engineering work except the two short semi-spiral tunnels by which the reversals of direction are made at the end of each loop. It is beyond this that there comes the highly spectacular piece of location work illustrated on page 159, with its four crossings of the Albula (two only of which appear in the photograph) and three spiral tunnels, two of which, Toua and Zuondra (to the right of the photograph) lie one directly below the other.

Your article makes no mention of the fine new lightweight open corridor stock, modelled on that of the Swiss Federal Railways, now being introduced on a fairly extensive scale in the principal Rhaetian trains. These coaches are mostly third class, and like the Swiss Federal vehicles mentioned, have two pairs of folding doors for entry and exit midway along the coach sides. There are also some first and second class composites of the same type. Two of the fast trains in each direction carry through tri-composite coaches between Chur and both Pontresina and Schuls-Tarasp.

Mention might have been made also of the excellence of the Rhaetian station accommodation, of which St. Moritz is the finest example. In recent years the station at Klosters has been remodelled entirely, and whereas reversal previously was necessary of all trains travelling from Landquart up to Davos, they now continue through the station and regain the old route by means of a sharply curved reinforced concrete bridge over the river and a new tunnel under the opposite mountainside. At the present time the station at Davos Platz also is undergoing reconstruction.

In one or two instances the writer of your article is a little too free in his use of superlatives. So far from the 5,998 ft. altitude of the Rhaetian Railway Chur-St. Moritz line in the Albula tunnel being "the highest one in the Alps," it is surpassed by the same company's 7,400 ft. of the Bernina line at the Bernina Hospice Station, and many other altitudes exceeding 6,000 ft., of both through and mountain railways in the Alps, could be quoted. Again, the 1 in 14 gradients of the Bernina Railway do not make this "the steepest adhesion-worked line in the world"; the Montreux-Oberland Bernois Railway has long adhesion-worked stretches at the same inclination, up from Montreux to Les Avants, while, as your own "Railway Handbook" mentions, the electrically-operated St. Gervais-Chamonix line of the South-Eastern Region, French National Railways, has a 1 in 11 gradient worked by adhesion between Chedde and Servoz.

Lastly, the striking Langwies viaduct on the Chur-Arosa line, with its 326 ft. span, is a very long way indeed from being "the world's largest span in ferro-concrete." Even in Switzerland it is far exceeded by the great Lorraine Bridge which carries four tracks of the Swiss Federal Railways across the Aar into the main station at Berne with a clear span of 150 metres, or 495 ft.

Yours faithfully,
CECIL J. ALLEN

Railway Passenger Traffic

Rustington. August 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Many people, including some railway officers, will doubtless share Mr. Bell's regret that passenger journey statistics are not compiled on a four-weekly basis, as apart from the difficulty of making effective comparisons between monthly passenger journeys and four-weekly coaching train miles the present monthly basis is apt to give misleading comparisons because of the vagaries of our calendar. For example, a month in the current year may contain five Saturdays as against four in the corresponding month of the previous year, and thus would have a disturbing effect on the comparisons, the number of passenger journeys (other than workman and season tickets) on a Saturday being generally much greater than on any other day of the week; similarly, a month may contain five Mondays in the current year as against four in the previous year. This would result in an apparent (but fictitious) substantial increase in workmen's journeys, the journeys for the complete week relating to workmen's weekly tickets issued on a Monday being included in the issues for that day.

The practice of compiling monthly passenger journey statistics probably originated with the half-yearly accounts at one time issued by the railway companies. The calendar month was considered to be the most convenient period for stations to compile their figures building up to the half-yearly totals, the passenger revenue being computed by multiplying the appropriate fares by the number of tickets issued, and the latter, when converted to single journeys, formed the basis of the passenger journey statistics. Although it would not be impossible to compile four-weekly statistics of passenger journeys concurrently with monthly passenger receipts, it would cause considerable additional work both at the stations and in the accountants' offices of the Regions.

There would appear now to be no really serious objection to all the revenue figures (and relative statistics) for each year being compiled four-weekly instead of monthly, thus coming into line with the practice generally adopted for expenditure, the aggregate of the 13 four-weekly periods being supplemented by estimates for the one day (two days in a leap year) to bring the figures up to the year's total. There would, of course, be a difficulty in obtaining reliable comparative figures when the change was made, and it might even be necessary to dispense with comparisons for the first year.

The year 1950 commences on a Sunday, and I would suggest that the authorities concerned should seriously consider switching over from monthly to four-weekly station accounts as from January 1 next; alternatively, at the cost of some additional work. The 1950 revenue could be compiled on both monthly and four-weekly bases, the former being dropped for 1951 and thereafter. This would obviate the difficulty as to comparative figures mentioned previously.

Yours faithfully,
J. H. LAUNDY

The Scrap Heap

R.D.

Annoyed because a goods breakdown delayed her train for half an hour, a woman passenger pulled the communication cord and held up the train another five minutes. At Manchester recently she was fined £5, with 10s. costs.

It was stated in court that the guard tried to cool the passenger down. She told the police: "I pulled the cord. I am saying nothing more. Damn it all, why should I? I am absolutely sick of British Railways."

Defendant sent a letter saying: "I enclose a cheque for £5, which I understand is the penalty. I have since confined my own travel to bus and air."

The magistrate's clerk said: "This cheque is no use to me. It is made out to British Railways."—*From the "Daily Express."*

* * *

100 YEARS AGO

From THE RAILWAY TIMES, *August* 18, 1849

AT the meeting of the London and North-Western, Mr. GLYN announced the conclusion of a traffic alliance with the Midland Company, tending to consolidate and extend the commercial advantages of both Companies. That this measure may be regarded as the forerunner of a more close and compact alliance, there can be little room to doubt. Mr. GLYN, it will be seen, guards himself from being understood to place the arrangement in the light of an amalgamation; and it would be premature to apply that term to it. We hope that the public and the shareholders in both lines will benefit by the proposed change, and that while the latter lose nothing of their dividends, the former will gain in expedition and economy.

* * *

TRIALS OF A TANK ENGINE

A locomotive that lost its chimney is the subject of the accompanying illustration, which we recently have received from Mr. John L. Smith. The locomotive is Southern Region No. 756, *A. S. Harris*, which was built for the Plymouth, Devonport & South Western Junction Railway in 1907, and subsequently worked from a variety of Southern Railway depots. Our correspondent learns that the locomotive's copper-bonded chimney dropped off and as No. 756 was the only shunting tank engine at Battersea depot suitable for working to a nearby milk depot, it ran for some two weeks without a chimney.

THE ROAD TO THE WHITE HOUSE

Three Presidents of the United States worked for railroads in their earlier days. They were James Buchanan, Abraham Lincoln, and Harry S. Truman.—*From "Railroad Data."*

* * *

British Motorbus Practice and Performance

(With affectionate acknowledgments to Mr. Cecil J. Allen of the "Railway Magazine."")

My remarks on the subject of the low-roofline profile characteristic of the visiting buses to be seen on some routes in the London area have brought me a number of letters. One, of particular interest, comes to me from Mr. J. Doubledome.

The real advantage of the squat build, writes Mr. Doubledome, lies not so much in the reduction of overall height as in the decreased head-room for passengers not only on the upper deck but also on the right-hand side of the lower deck. "The constant risk to passengers in these seats," he says, "of beating their brains out on the roof must in the long run induce added vigilance in the travelling public, which is bound to have a powerful effect in the evolution of the standard passenger of the future, with the conditioned reactions to conductors and extremely small personal initiative which it is agreed in bus-operating circles are desirable in a really useful all-purpose design."

Mr. Doubledome goes on to praise the four-abreast seating on the "outside," which most of my correspondents hitherto have found on the whole to be a weakness. "This is the first time," he points out, "that consideration has been given in London bus design to the needs of the family of father, mother and two children. All previous arrangements have necessitated their being placed in two groups of two, with the attendant complications of constant arguments about who's got enough coppers for the fare, and even the risk in severe conditions that all the fares may be paid twice over."

While I am inclined to agree with much that Mr. Doubledome says, I feel that there is a further point of some importance that he has overlooked, and that is the provision of amusement in the bus to compensate for the reduction in available advertising space. Even the difficult and boring stretch between Notting Hill and Willesden on the 52 route can be made bearable by proper attention to the expressions of astonished indignation on the faces of passengers who, having firmly determined not to bump their heads *this* time, bring their skulls into sharp contact with the roof as soon as they get within fifty yards of their stopping-places.

Another letter, from Mr. P. Valve, draws attention to the desirability of running the low-roofline buses only on the routes to which they are best adapted, illustrating his point with an account of a recent run on the new route to Bungles Park. "When making this run recently," he says, "in RTL class No. MJF 693, with sixteen passengers inside and nine on top, Driver Crashgear, who was accustomed to the extra headroom given by the low-built buses, took the railway bridge over Dingworth Rise at 28·4 m.p.h., with the result that the whole roof came off. Several passengers were cut by glass, and it is likely that if weather conditions had been more unfavourable they might have been soaked by rain."

I agree with Mr. Valve entirely about the necessity for drivers to avoid taking their buses under bridges with insufficient clearance, and am surprised that an experienced driver like Tom Crashgear did not take the slightly longer but undoubtedly less risky route by Dingworth Crescent and Mulberry Street. No doubt he has learnt his lesson.

My own most recent experience with the low-roofline buses has been on a run from Notting Hill Gate to Victoria Station on the 52 route. The bus was No. PEP 10, a Lowestoft-built job normally employed on the Eastern Counties run, with a very light passenger complement, six women and a little boy. We made a very good start out of Notting Hill, covering the downhill stretch as far as Kensington Church at an average of 14·4 m.p.h., with only one stop caused by a passenger wanting to get off at Brunswick Gardens.

The long straight run from Kensington Church to Hyde Park Barracks was covered in exceptionally fine style, with only one minor check caused by a Boy Scout rally at the Albert Hall. Speeds were 21 m.p.h. at Queen's Gate, 22·4 m.p.h. at Exhibition Road, and 29 m.p.h. past the Combined Operations Headquarters. Time to Hyde Park Barracks was 6 min. 12 sec.

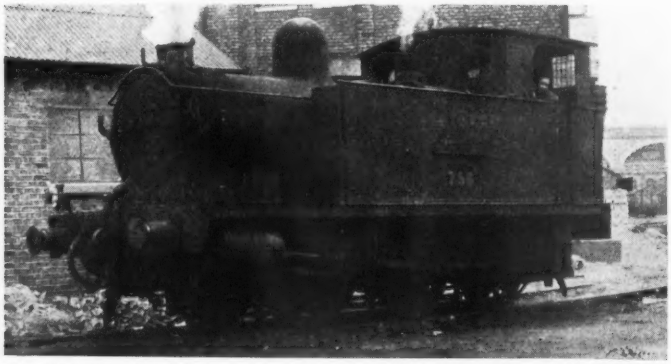
Unfortunately, from here onwards a series of misfortunes seemed to conspire together to take the life out of the running. We were badly held up by a road-repair check at Knightsbridge Underground, and speeds were restricted to 6 m.p.h. all the way to Albert Gate, where we were stopped almost 2 min. by traffic-lights. There was a further check at the request-stop just beyond this, where three old ladies with shopping-baskets were added to the load. Time to St. George's Hospital was 13 min. 52 sec.; there is no doubt that this figure could easily have been improved on if we had gone faster.

The remainder of the journey was uneventful, except for an encounter with a company of the Irish Guards in Grosvenor Gardens, which held us up for a further 2 min. This was a disheartening check, as speeds of 18 m.p.h. at Halkin Street and 23½ m.p.h. at Hobart House had been recorded, due in part to the lightening of the load, which from Hyde Park Corner was only three old ladies and a soldier.

The difficult last 100 yards from Grosvenor Gardens to Victoria was taken gently, the highest speed recorded being 7½ m.p.h. opposite the milk-bar. We finally ran into Victoria in 22 min 17 sec., a performance that compares very creditably with anything put up in the same conditions by any of the types incorporating the conventional roof-level.—B. A. YOUNG.

[Reproduced by permission of the Proprietors of "Punch"]

Without a Chimney



Southern Region 0-6-0 tank engine No. 756 "A. S. Harris" shunting at Battersea, after the loss of its chimney

Photo] [John L. Smith

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

PORTUGUESE EAST AFRICA

Opening of Tete Railway

On June 30 the Governor-General of Mozambique opened the new line from Dona Ana on the Trans-Zambesia and Nyasaland Railways to Tete, linking the extensive Moatize coalfields with Beira.

The Governor-General burned through a ribbon stretched across the track with a shovelful of burning coals to allow the flag-bedecked engine to draw the inaugural train into the terminus.

As at Wankie, Rhodesia, much of the Moatize coal is near the surface and seams are easily worked. The quality of the coal is said to be good, and it is thought that in price it should be able to compete with coal from any other sources. It is estimated that the colliery will be producing 100,000 tons a year by December of this year, and a future production of 300,000 tons a year has been planned.

Beira may now become a bunkering port for ships, and coal should become one of the chief exports through Beira when the Moatize colliery achieves full production.

The distance from Moatize to Beira is only 354 miles as against 885 miles from Wankie to Beira. It is possible that, as a result of these developments, the Rhodesia Railways may shortly be relieved of certain coal transport to Beira, thus releasing wagons urgently required for chrome and copper export traffic.

SOUTH AFRICA

Rolling Stock

Between January 1 and June 4 this year 2,077 goods wagons, 55 passenger coaches, 27 steam locomotives, and four electric units were placed in service. Local producers supplied 845 wagons, and 686 were imported from the United Kingdom and 546 from Canada. As against 2,077 goods wagons placed in service during the first five months of this year, the whole of 1948 saw only 3,389 additions. Scrapping accounted for 860 wagons last year, and in 1949, 480 have already been written off. In 1948, 31 passenger coaches and 23 steam locomotives were scrapped and up to the present seven coaches and eight engines have been retired from service this year. Because of the scrapping of four-wheel wagons there has been a decline in the number in service, but there has been a steady increase in bogie wagons.

During May, 758 new wagons were placed in service, compared with 332 in April. Of these, 589 were imported and erected in the Union, 158 were built by private firms locally, and eleven were built in railway workshops.

Catering Department

The Catering Department earned £2,212,363 in the financial year ended March 31. Expenditure amounted to £2,400,507, leaving a deficit of £188,144. The loss on the previous year's working was £72,631. Thefts, breakages, and other losses are costing the railway administration £39,000 a month.

Traffic Features

The last week in April saw an improvement in the transport of coal. Output for the week ended April 28 was 428,263 tons. Natal coal mines received a full supply of wagons during this week and produced 85,155 tons.

Coal output from the collieries for the four weeks ended May 28 amounted to 1,622,554 tons, 79,170 tons more than in the corresponding period of last year. Exports totalled 192,284 tons.

During the week ended June 11 a record was established by the loading of 100,000 wagons for the first time. In the first five months of this year, 1,933,397 trucks were loaded, which is 43,955 more than in the corresponding period of last year. The total tonnage moved by railways in the 1948-49 financial year was 55,845,050 tons, a new record. In the 1948-49 financial year 4,782,979 wagons were loaded, over 200,000 more than in the preceding year.

NEW ZEALAND

Financial Results

A net loss of £1,102,866 was incurred by the railways during the last financial year. The maintenance of even a restricted service has made the import of coal from overseas and the extended use of oil fuel a necessity, and the cost of this has greatly inflated railway expenditure.

MEXICO

Extensive Gauge Conversion Schemes

In connection with the £25,000,000 scheme for modernisation of the railways the Mexico City-Acambaro section of the National Railways has been converted from narrow to standard gauge at a cost of about £550,000. The next large task to be undertaken is the similar conversion of the 330-mile Mexico City-Puebla-Oaxaca main line.

CANADA

Newfoundland Traffic Development

Mr. Alistair Fraser, Vice-President, Traffic, Canadian National Railways, said on his return from an inspection of the company's freight and passenger traffic facilities in Newfoundland that its tourist industry showed signs of rapid development. He added that Newfoundland was undoubtedly an almost untouched territory for the fisherman and hunter, and tourists could count on a hearty welcome when they went there. "The volume of passenger traffic being handled by the railway is encouraging," said Mr. Fraser, "and I think this is due to a degree to the new lower passenger rates."

Freight Loading Record

A new maximum for revenue freight loadings was established during 1948 when the total reached 112,836,000 tons, exceeding the previous record made in 1947 by 3,766,900 tons or 3·5 per cent., according to summary figures for the year issued by the Dominion Bureau of Statistics. The wartime record in 1944 was 106,157,000 tons. The 1948 volume was handled with approximately 10,000 more freight wagons than were owned by the Canadian railways in 1939 when wagons in freight service numbered 160,000.

Six of the nine provinces showed increased loadings over 1947, and Prince Edward Island, New Brunswick, and Saskatchewan registered declines. Nova Scotia reported 10,445,000 tons against 7,251,900 tons in 1947, due to gains in the coal movement; Quebec was up 585,000 tons to 20,178,300 tons; Ontario loadings increased about one per cent. to 39,356,400 from 39,125,000 tons, Alberta rose nearly 113,000 tons to 12,313,300 tons; and British Columbia stations reported 9,387,900 tons against 8,912,700 tons a year earlier, a rise of 5·3 per cent.

By commodity groups, only agricultural products showed a decline, receding from 25,776,800 tons to 22,371,600 tons. Animals and animal products moved from 1,775,900 to 1,917,400 tons. Mine products registered the largest gain, increasing over 5,179,000 tons to 37,493,400 tons. Forest products loaded were up 5·2 per cent. at 17,971,400 tons; manufactures and miscellaneous totalled 33,082,100 tons compared with 32,117,600.

SPAIN

Enlargement of Madrid Atocha Station

Madrid Atocha, the terminus of the former Madrid Saragossa and Alicante Railway, has eight tracks, and some 20,000 passengers pass through it daily. To ease congestion four additional tracks are to be built, mainly for trains to Alicante, Cuenca, and Toledo. An express goods depot is also to be converted into a station for suburban traffic.

Railway Loan

A recent Government decree authorised the Ministry of Communications to issue a loan of 5,000,000,000 pesetas intended for reconstruction of the National Railways, and the privately-owned narrow-gauge railway systems. Part will be earmarked for the modernisation of signalling installations, and for rolling stock. The loan is to bear interest at 4 per cent. and will be redeemable in 50 years. The interest service will be guaranteed jointly by the State and the interested concerns. In connection with this loan, the Ministries of Industry, Trade, and Public Works will be granted special rates of exchange for materials and supplies which will have to be obtained abroad.

FRANCE

Cheap Holiday Tickets

Paris termini have had to deal recently with crowds of passengers leaving for the annual paid holidays. Departures totalling 665,000, requiring 187 supplementary trains, were registered between Thursday, July 28, and Sunday, July 31. In connection with the holidays the S.N.C.F. announced that cheap holiday tickets, hitherto restricted to third class, would also be available for first and second class, as from August 1. The reduction in fares for such tickets is 30 per cent.

Rise in Paris Metro Fares

The Paris Passenger Transport Board has raised the price of single tickets on the Metropolitan by 50 per cent. The increase does not apply to booklets of five tickets, each valid for two journeys. Second-class single tickets, bought separately at the ticket office, will thus be raised from the flat fare of fr.10 to fr.15, and first-class tickets from fr.15 to fr.23.

In addition every Sunday, as from August 14, all ticket holders must present a supplementary ticket of fr.5. This means that on Sundays second class single tickets will cost fr.20 and first class fr.28. For holders of booklet tickets the fares will thus be fr.15 second-class and fr.20

first-class on Sundays. The Sunday supplement for disabled war veterans and members of large families will be fr.2.50. A supplementary ticket on Sundays will also be required on the buses.

The decision to raise the fares is strongly opposed by the public and the Paris Municipal Council. According to *Le Figaro*, M. Paul Frangey, municipal councillor and member of the Transport Board, said that the councillors are unanimously against any increase. He added that this measure will not diminish the Transport Board's deficit. Other councillors agreed that the double increase of fares on Sundays is impossible to apply and will be practically inoperative.

The Paris Municipal Council recently decided that the City of Paris would guarantee a loan of fr.1,000,000,000, for the issue of which the Transport Board has requested authorisation by the Minister of Public Works & Transport. The loan is to finance the Transport Board's programme of equipment and reconstruction for 1949.

GERMANY

Electrification Projects

The conversion to electric traction of a densely-worked section of main line north-east of Stuttgart was begun recently. The section branches from Stuttgart Bad-Cannstatt Station (2·1 miles from Stuttgart main station) on the electrified Stuttgart-Ulm-Munich main line and leads to Waiblingen, 5·3 miles north-east, the junction of the Stuttgart-Nuremberg main line and the main line for Aalen, east of Stuttgart. The electrification of this short but important line is designed to ease the difficult traffic problem in the surroundings of Stuttgart.

The electrification of the overtaxed and intricate system in the Ruhr zone and the adjoining Rhine province has been a problem of long standing. Discussions have continued for many months, and culminated in the recent establishment of a study group for the electrification of the Rhine-Ruhr railways, known as Studiengesellschaft für Elektrifizierung des Rhein-Ruhr-Eisenbahnverkehrs, with headquarter at Essen.

The main object of the study group is to undertake all preliminary steps for the conversion of the lines in the area, including statistical surveys of the traffic which would justify the conversion; to establish the system of traction most convenient in view of the high density of the traffic on the lines affected, and to study the financial problems connected with the electrification. These preliminary studies are to be concluded by the end of this year when it is proposed to form a group on a broader basis which will have to enlist the support of the economic interests in the area.

International Trains Available for DM.-Fares

International trains through western German territory will be available again to passengers paying their fares in Deutsche Mark as from August 10. Hitherto, passengers boarding these trains within the German frontiers have been required to pay their fares in United States dollars, British pounds, Belgian francs, or Swiss francs. Passengers inside western Germany only will be allowed to use these trains exclusively to and from frontier stations or over distances exceeding 250 km. In addition, holders of season tickets will not be allowed to use the following international trains in transit through western Germany: "Nord Express" (Paris—Stockholm); "Scandinavia Express" (Hook of Holland—Copenhagen and Rome—Copenhagen); and the through coaches Amsterdam—Basle; Paris—Berlin; Hook of Holland—Hanover; and Hook of Holland—Goslar.

Fast Fish Traffic

The fast fish trains which were a feature of the Reichsbahn before the war, were reintroduced this summer and operate between the main fishing ports (Cuxhaven, Bremerhaven, and Hamburg-Altona) on the one hand, and the south and south-west, including Munich, Karlsruhe, and the Lake of Constance. The trains are timed to arrive at their farthest destinations barely 24 hr. after the catches are landed, and on some routes they travel faster than the "D-train" passenger expresses. The Reichsbahn in Western Germany has now approximately 1,000 refrigerator vans suitable for the conveyance of fish.

Developments in the South West

Through traffic between Ulm, in the American Zone, and Freiburg-in-Breisgau, in the French Zone, one of the most important cross-country routes in southern Germany, was resumed recently after a break since 1945. The distance between Ulm and Freiburg is 211½ miles, and the line includes the section between Neustadt and Freiburg, 22·6 miles, electrified on the 50-cycle system. This section, known as the Höllental line, which crosses the Black Forest, is noted for its picturesqueness. It was badly wrecked during the German retreat. Particulars of the line were published in *The Railway Gazette* for March 12, 1948.

Publications Received

British Standards Institution Yearbook, 1949. London: British Standards Institution, Sales & Distribution Department, 24, Victoria Street, S.W.1. Price 5s. (post free).—This yearbook gives a subject index and a synopsis of each of the 1,500 British Standards now current. These standards have been prepared by representative committees of 55 different industries. The book includes lists of members of the general council, the divisional councils, and the industry committee of the Institution, as well as other useful information about its work. A subject index of the list of British Standards may be obtained separately at the published price of 1s. 6d.

Transport by Land. Designed and edited by Paul Redmayne. "The Changing Shape of Things" Series. London: John Murray, Albemarle Street, W. 11½ in. × 8¾ in. 49 pp. Fully illustrated. Price 8s. 6d.—In general, this is a well-selected series of pictures, with brief explanatory text, but the great extent of the subject (or series of related subjects, as all forms of land transport and inland waterways are included) has resulted in somewhat scrappy treatment. With the railway illustrations, for example, the tendency is to make the greatest contrast, showing views of the 1830s and modern scenes, but few intermediate stages. Incidentally, the authorities relied on are mainly good, but not entirely so, as one or two quoted in the bibliography are far from being accepted as "authorities." Probably because of this, the error is perpetuated that the Coalbrookdale iron railway of 1767, which occupies an important place in the evolution of the railway, was a flanged plateway. With passenger road transport, although a sentence records that one of the results of the bus has been to transform life in the countryside, not a single illustration is included of a provincial bus—London Transport stock subjects are so easy to obtain! Somewhat surprisingly, views of an 1863 trial trip on the Metropolitan Railway and of a modern underground coach are included with trams under the heading "Public Transport on the Highway—on Rails." Despite these criticisms, we regard this as the best we have seen on transport of the "potted knowledge" books that seem to be in demand. The illustrations are reproduced admirably.

Handbook of Steel and Steel Products.—London: British Standards Institution (B.S. Handbook No. 10), 28, Victoria Street, S.W.1. 8½ in. × 5½ in. 674 pp. Illustrated. Price £1 5s. The intention of this handbook is to present a comprehensive picture of the whole field of British steel products, and to give in summarised form all the standards which apply to them. Its compilation has been a co-operative effort of the whole British steel industry, acting through an editorial committee under the chairmanship of Mr. Sinclair Kerr, of the Lancashire Steel Corporation Limited, and Mr. T. Jolly, of Guest, Keen Baldwins Iron & Steel Co. Ltd. There are three main parts and an index. The first part contains articles describing the manufacture of steel and of steel products; second, classified summaries of the essential technical requirements of British standards for steel and steel products; and third, other information of general interest, such as methods of test, heat treatment definitions and conversion factors. There is a foreword by Sir John Duncanson.

Eisenbahnbau. (Railway Construction). By Otto Blum. Heidelberg: Winters Studienführer, Lutherstrasse 59. 8 in × 5¼ in. 272 pp. Illustrated with plans and diagrams. Paper covers. Price DM 5.—A last work of Dr. Blum, a Professor of the Hanover Technical College who died in 1944, this short treatise is one of a series designed for students, as an introduction to various technical subjects. The first two parts include a short history of railway development, technical questions of railway construction, mountain and narrow-gauge railways, regarding which many facts are compressed in the minimum of space; as such it is of interest to junior railway students. The third part deals, rather more fully, with passenger and goods stations, yards and junction layouts, and will be of interest to all, and especially operating and commercial railwaymen. The book was written in a Nazi Germany isolated by war. Its range therefore tends to be confined to Germany; the bibliography names only German works.

Laughs Along the Lines. London: S. Evelyn Thomas Publications, 23, Montagu Square, W.1. 8½ in. × 5½ in. 48 pp. Paper covers. Price 1s. 6d.—This booklet is one of a series of well-known humorous publications and contains a good selection of cartoons and jokes pertaining to railways and railway travel.

Comparative Operating Costs

Importance of speed increases in the evolution of an equitable basis of comparison for motive-power operating costs

(From a Correspondent)

RELIABLE data on which to base comparisons is a first necessity in any study concerning the introduction of new motive power, but even more necessary is the adoption of an equitable basis of comparison. This becomes more important still when, as in the case of diesel traction studies, standard power units are under consideration for different classes of services.

It seems desirable, therefore, that not only should a common basis of calculating the operating costs of existing and proposed services be arrived at, but that such a basis should be equitable and take into consideration differences, if any, between existing and proposed services, as well as the difference in the physical characteristics of the line, as represented by the incidence of gradients.

The purpose of these notes is to indicate some of the technical aspects affecting the choice of a basis of comparison. Locomotive operating costs are directly related to the work done by the locomotive, inasmuch as fuel, maintenance and repair costs are a direct reflex of the power taken out of the locomotive in a given period of time, and may be compared to the kW.-hr. output of a power station. Similarly, as in the case of a power station, the cost per unit of work performed will vary widely according to the age, type of locomotive, and loading.

(A) *New power for existing services*

When the new power, whether diesel or steam, is intended to replace existing units doing equivalent work in terms of speed and load, there is no difficulty in reconciling technical and economic considerations, as the basis of comparison is that of relative efficiency and availability of the new, as compared with existing power. Under these conditions, either the cost per mile run or the cost per ton-mile satisfies technical requirements.

(B) *New power for existing services, but with increased loading*

In this case the ton-mile basis seems indicated, as it is a direct reflex of the d.b.h.p.-hr. involved. The degree of utilisation of the locomotive may vary and availability be dictated in part by traffic requirements, but both these factors will be reflected in the capital costs of the number of units required for any service.

(C) *New power for services with higher operating speeds*

When increased operating speeds are involved, either in combination with existing loadings, or even with reduced loadings, neither the cost per mile, or the cost per ton-mile, is any indication of the locomotive power involved. This cannot be made clearer than by consideration of hypothetical examples. In the following table, the case has been considered of a service in which the average loading and the engine hr. per month remain constant, but the speed is varied.

The coaching stock resistances on which the d.b.h.p.'s have been calculated are values with which the writer is acquainted, but, of course, would be varied according to the practice ruling on each railway.

An examination of the foregoing table will indicate that whereas the ton-miles per month have increased at the same ratio as the average speed, that is, from 1 to 1·5, the d.b.h.p. hr. of work performed have increased in the ratio of 1 to 2·36. This proves clearly that where increased speeds are contemplated, neither the cost per mile, or per ton mile, is a true indication of the work performed and, therefore, is not a reliable basis on which to make comparison of costs between new and old power.

It may be claimed that where increased speeds are proposed, these would be accompanied by reduced loadings, and a further hypothetical example has been chosen to examine this aspect of the subject. In this case the engine hr. per month again have been maintained constant, as have also the ton-miles per month.

It will be noted here that despite a reduction of 33 per cent. in the load, at a speed of 60 m.p.h. this requires nearly 60 per cent. more d.b.h.p. and confirms the conclusions derived from the previous example. Though much of the foregoing is self-evident to the mechanical, or electrical department, it is not so clearly understood, or even appreciated, by the traffic section, and perhaps even less so by the accountant.

(D) *Incidence of gradients*

The effect of gradients on locomotive power requirements can make comparisons between one railway and another, or even between different sections of the same railway, very misleading. Reduced speeds on gradients do not fully compensate the increased power requirements. It is not fully appreciated that it requires about 2·25 h.p. at the drawbar for each ton weight of train on a 1 in 100 gradient at a speed of 30 m.p.h. It can readily be demonstrated that the work done in hauling a train up a 1 in 100 gradient for a distance of 15 miles at 30 m.p.h. is in terms of h.p. hr. equivalent to hauling the same train on the level for 40 miles at 60 m.p.h. This indicates the fallacy of comparing without due qualification the performance and operating costs of locomotives operating over comparatively flat sections, with those on which gradients are encountered.

Reviewing the foregoing, it will be evident that the only basis of comparison which represents even approximately the work done by the power unit, is that of d.b.h.p. hr. Confirmation of this can be found in the fact that some years ago the h.p. hr. unit was used in the U.S.A. in an attempt to compare locomotive repair costs on an age basis. In this instance, however, it was the potential h.p. hr. which was considered.

To be truly applicable, locomotive repair costs, no matter what basis is used, should be available under locomotive type classifications and comparisons of costs based on specific services. The high capital outlay involved in the acquisition of modern power, whether steam, or diesel, makes it essential that studies should be based on specific services in which the miles per month, loading and average speeds are known. Comparative costs based on anything less specific are dangerous.

With such data and using accepted resistance figures for rolling stock, the technical staff can readily calculate the d.b.h.p. hr. involved in any particular service and, as any such calculation would automatically take into consideration the effect of gradients, comparison of one service with another would be on a reasonably equitable basis.

It may be argued that ton-miles per engine hr. give a reasonable basis of comparison, and though this is true in the case of engines doing similar work, in reality it only expresses the degree of utilisation of the locomotive. Reference to Table I will show that where speed increases are involved, this basis would only show an increase in the ratio of 1 to 1·5, whereas, as already demonstrated, the power output has increased in the ratio of 1 to 2·36.

The matter that the writer is desirous of drawing attention to is the real effect of speed increase, and he is confident that if those engineers planning new power care to analyse their proposals in the way suggested, a much better economic case can be made for modernisation of motive power.

TABLE I—PASSENGER TRAIN SERVICES

Miles per month	Average load, tons	Engine hr. per month	Average speed, m.p.h.	Ratio	Ton miles per month × 1,000	Ratio	D.b.h.p.	Ratio	D.b.h.p. hr.	Ratio
8,000	500	200	40	1·0	4,000	1·0	360	1·0	72,000	1·0
10,000	500	200	50	1·25	5,000	1·25	570	1·58	114,000	1·58
12,000	500	200	60	1·5	6,000	1·5	850	2·36	170,000	2·36

TABLE II—PASSENGER TRAIN SERVICES

Miles per month	Average load, tons	Engine hr. per month	Average speed, m.p.h.	Ratio	Ton miles per month × 1,000	Ratio	D.b.h.p.	Ratio	D.b.h.p. hr.	Ratio
8,000	500	200	40	1·0	4,000	1·0	360	1·0	72,000	1·0
10,000	400	200	50	1·25	4,000	1·0	455	1·26	91,000	1·26
12,000	333	200	60	1·5	4,000	1·0	570	1·58	114,000	1·58

BRITISH ALUMINIUM EXHIBITS AT OLYMPIA.—The stand of the British Aluminium Co. Ltd. at the Engineering & Marine Exhibition which opens at Olympia on August 25 will have as its central feature a funnel casing in aluminium alloy. Standing about 21 ft. high by 26 ft. long, this casing is destined for the new Southern Railway steamer *Brighton* and has been fabricated by William Denny & Bros. Ltd., Dumbarton. Made up from aluminium alloy plate and extruded section it shows a weight saving of 4½ tons against a similar funnel in steel. Illustrations will be given also of various applications of aluminium alloys to light and heavy engineering structures and one section will be devoted to an exhibit showing riveting technique.

Re-Signalling at Lime Street Station, Liverpool

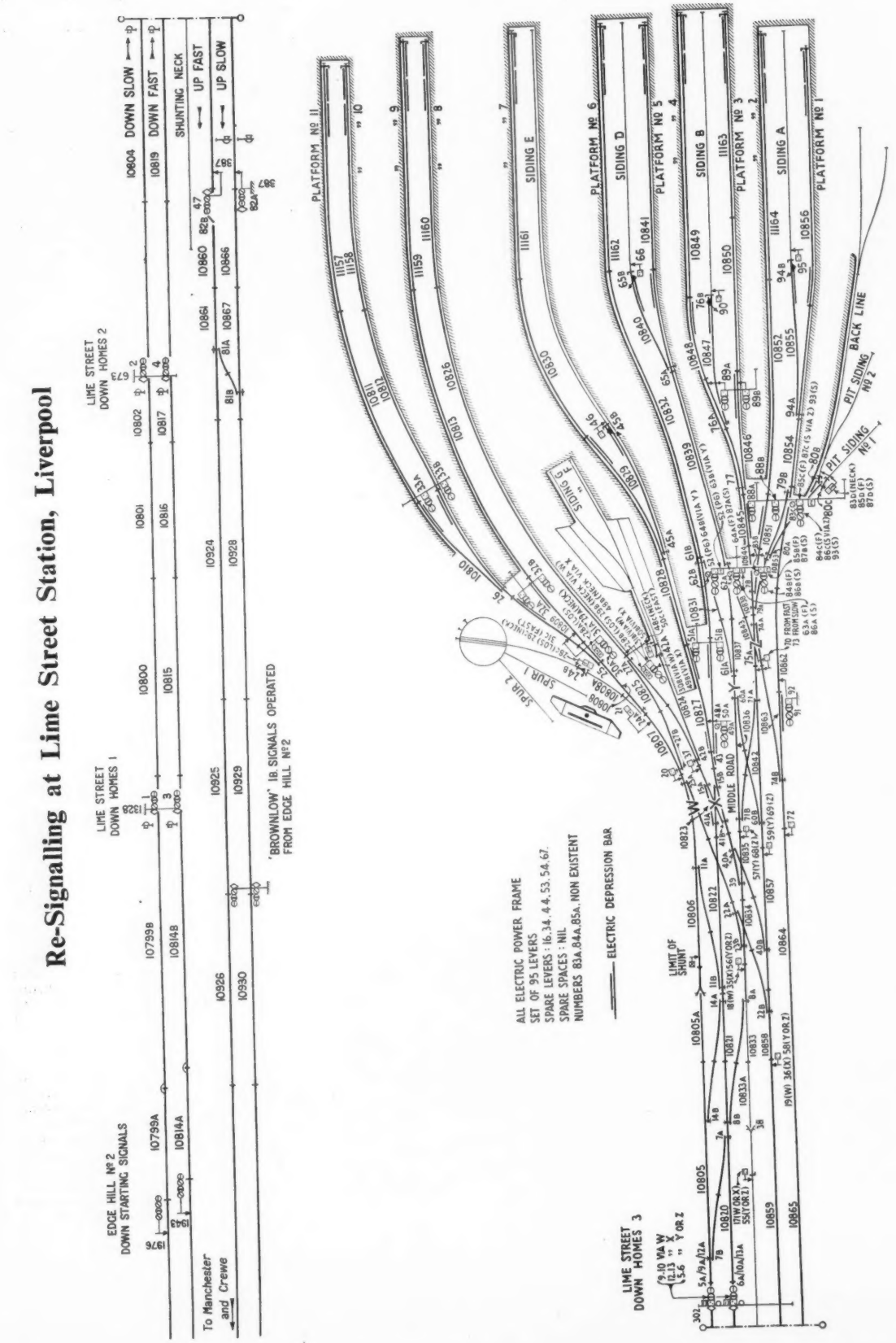
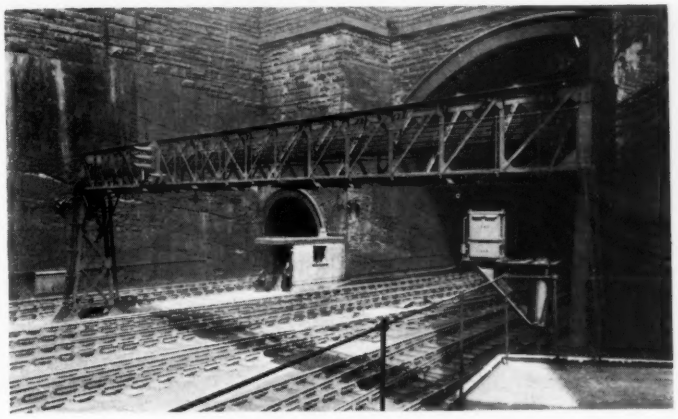


Diagram of Liverpool Lime Street new power-signalling layout

Re-Signalling at Lime Street Station, Liverpool

Special difficulties of the site necessitated close collaboration between civil and signal engineering staffs, as well as special designs of ground equipment and other details



Cable gantry spanning 72 ft. 2 in.

THE traffic capacity of Lime Street Station, Liverpool, London Midland Region, has been considerably increased by the completion of extensive permanent-way work, the installation of modern all-electric signalling, lengthening of platforms, and provision of a new turntable. Previously, the inadequate length of the platforms, with one or two exceptions restricted trains there to 12 vehicles, a disability which could not be dealt with independently, due to the signal box being situated between the running lines. Its position had been determined by the need to give the signalmen an actual view of the running lines and platforms, but with modern apparatus and track-circuit indication, this necessity no longer existed, and it was possible to remove the box clear of all running lines and use the space occupied by it in remodelling the layout.

The problem was considered during 1936-8, and a comprehensive scheme of modernisation and improvement designed and approved in October, 1938, by the former L.M.S.R. board, at an approximate estimated cost of £90,936. The scheme involved the following:—

Replacement of the existing signalling, which was life expired, in power-operated form, with colour-light signalling and track circuiting.

Lengthening of the platforms, with the necessary remodelling of the connections.

Provision of one 70-ft. turntable in lieu of the two smaller ones (50 ft. and 60 ft.), capable of catering for all classes of engines.

The war considerably interfered with the work. Difficulty of obtaining materials and shortage of labour made progress very slow; rise in prices of materials and labour costs, together with essential modifications of the scheme, increased the original estimate by £96,418, the final revised figure for the complete scheme being £187,354.

The new power signal box was brought into use on January 25, 1948. Colour-light signalling, full track-circuiting and train describers have been installed as between Edge Hill and Lime Street, and block working dispensed with. The improved signalling provides increased line capacity between these places, and affords greater security to traffic operations. The lengthening of the platforms and the remodelling of the permanent-way layout enable 21 additional coaches to be accommodated.

Civil Engineering Work

To give the maximum length possible to the platforms and to simplify the traffic arrangements, it was necessary to remodel, or relocate, certain of the approach lines. To achieve this effectively the site of the original signal box was needed, and by collaboration between the civil and signal & telegraph engineers a scheme was evolved whereby the new signalling arrangements and the renewal and relaying of the permanent-way could be carried out jointly; a site for the new signal box was found, and the original one freed for track improvements.

The greater portion of the station, with the approach lines for the whole of their length from Edge Hill, 1½ miles away, was originally excavated out of solid rock to a depth of 40 ft. This left very little space for any new works, without previously recovering some part of the original equipment, and although room was found for most of the new outside signalling equipment alongside what already existed, some 280 cu. yd. of rock had to be excavated to accommodate some of it.

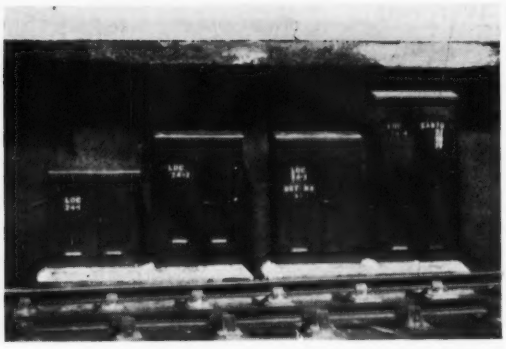
A bigger problem was presented in the installation of the new 70 ft. turntable. This involved the cutting out of approximately 2,400 cu. yd. of rock and the sealing up of fissures and cracks in the rock face and clay pockets encountered during the works.

From lack of sufficient storage space, the greater part of the new permanent-way had to be built up off the site on the nearest available spare ground at the district engineer's materials yard, and conveyed in complete sections by working trains to the appropriate final position, and the changeover from old to new had to be effected while keeping as much of the station as possible open to traffic. The position was considerably eased by the civil and signal & telegraph engineers having complete possession of one portion of the station for 16 weeks, when both worked concurrently.

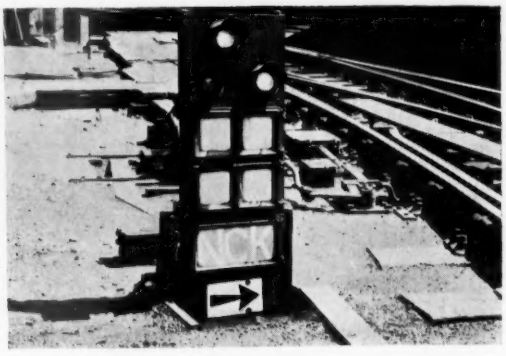
During the track renewals, advantage was taken to redrain the area and the old spent ballast was removed down to the underlying rock, new ballast and drains being provided throughout.

The new signal box is of brick and con-

Platform starting signal with right-away "R" exhibited. In the background is the cable gantry



Location cupboards showing cutting of rock face necessary to obtain clearances



Position-light ground-signal with stencil-type route indicator

crete construction, with three floors; the ground floor houses the relatively heavy electrical switchgear and 75 amp.-hr. point-machine battery and also provides messing accommodation for the shunters, together with an office for their inspector. The middle floor is the relay room (approximately 700 relays), with the cable terminations and all apparatus except that associated with the train describers, telephones and loudspeakers, which is housed at one end of the top floor. Fireproof materials and wire were used throughout the relay room, which contains 60 miles of internal wiring. The 95-lever frame has electric interlocking and is on the top floor; it is made-up of 58 signal, 31 point, and 6 spare levers.

There are 250 signalled routes, and a somewhat unusual method of selection was used, to avoid the disadvantages of excessive selection, while keeping the levers within easy reach of the two signalmen who are normally on duty together.

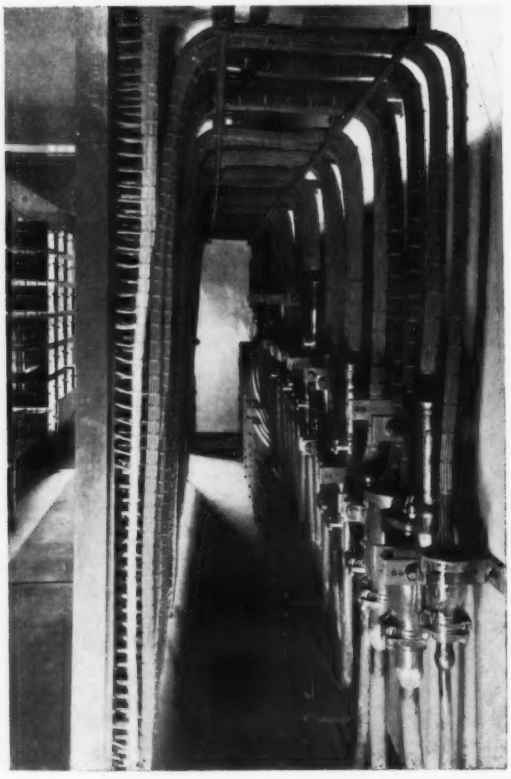
Apart from the departure signals at the head of each platform, additional signals have had to be provided within the length of most platforms, so as to protect the connections with the sidings between adjacent platform lines and also certain connections to running lines. These connections necessarily are placed within the length of the platforms, due to the restrictions of the site, which result in the majority of the signals being on gantry, or bracket, structures. In fact there is only one simple straight post signal in the whole scheme.

Signal Aspects

The colour-light running signals have theatre type route-indicators and position-light subsidiaries (without a normal aspect) as required, and small yellow aspects are used for the Off indications to sidings and other non-track circuited lines. Position-light ground-signals, which have a red and a white light for the On aspect, control the frequent shunting, and where passed in the facing direction by a running movement are automatically taken off when a lever for the latter is reversed, and are then held off by the appropriate route relay.

The main and subsidiary aspects of running signals are as a general rule controlled by the one lever and are selected according to the track circuit conditions ahead, but, in certain cases, the subsidiary signals are used for shunting purposes only, and for this purpose separate levers are provided.

Ground signals have not been provided for local shunts from platform lines to the



Main cable terminations in apparatus room

Point contactor relays

adjacent sidings. The shunters in charge of such movements are required to observe a bulkhead light attached to the platform wall adjacent to the points and illuminated when the point lever is either at full normal or full reverse in the lever frame.

Certain of the departure signals at the platform ends are provided with back indicators, to cater for specially long trains. These display the word Off, together with a route letter, on stencil type indicators, when a running aspect has been cleared.

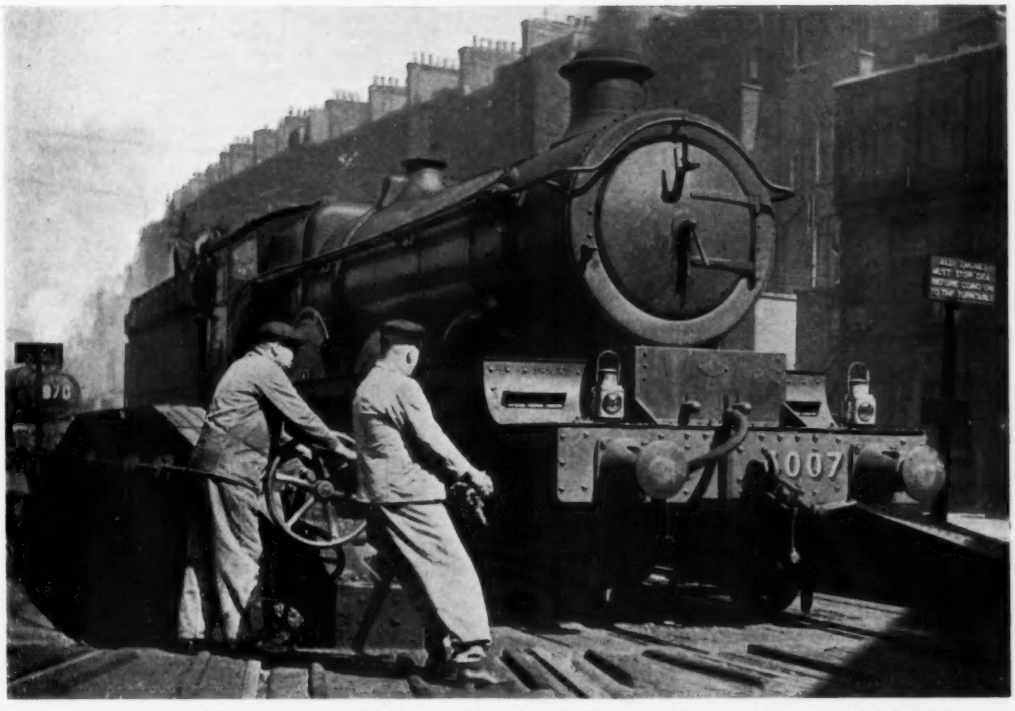
On platforms where the driver has difficulty in seeing the guard's hand signal, Right-Away indicators have been provided below the platform departure signals. These show a black letter "R" on an illuminated background and are operated by plunger from the head of the platform in question. A white light is provided adjacent to each plunger to show when the departure signal is Off, as the indicators can only be operated under these conditions.

Ground Equipment

The track circuits are of the a.c. condenser fed type, and electrical depression bars operate in conjunction, where necessary. Outside location cupboards could not be entirely eliminated and, due to the restrictions of the site, many special arrangements had to be made. Each location has a plug point for a portable telephone, on a common circuit to the relay room and signalman. A.c. detection is used, with individual isolating transformers. A cable gantry was provided across the station yard in lieu of a ground crossing, particularly in view of the rock formation. A total of 50 miles of single core cable was used for outside signalling purposes, and 11 miles of multicore cable. The "Style L" lever frame was supplied and installed by the Westinghouse Brake & Signal Co. Ltd., the Train Describers by Standard Telephones & Cables Limited, and the diesel alternator by Ruston & Hornsby Limited. The main portion of the signalling work was carried out by the London Midland Region.

The permanent-way work was carried out by London Midland Region staff under the direction of Mr. W. K. Wallace, lately Civil Engineer, and under the immediate supervision of Mr. W. H. Gyles, District Engineer, Liverpool. The signalling work was installed under the direction of Mr. W. Wood, who was Signal & Telegraph Engineer at the time, the work being under the immediate supervision of Mr. H. E. Morgan, lately Divisional Signal & Telegraph Engineer, Crewe.

Turning a "Star" Class 4-6-0 Locomotive



Forty-two year old locomotive No. 4007, "Swallowfield Park", on the turntable at Ranelagh Bridge, Paddington, Western Region

Photo] [Hubert J. Ashman, A.R.P.S.

THE MODEL ENGINEER EXHIBITION.—Sir Frederick Handley Page opened the twenty-fourth Model Engineer Exhibition, at New Horticultural Hall, Vincent Square, Westminster, on August 17. The exhibition is on similar lines to others of recent years and contains many models equal to the previous high level of craftsmanship. In the competition section there are three classes for locomotives, which include some notable exhibits. Among the steam locomotives, class one, were an unfinished 3½-in. gauge, ¾-in. scale working model of a "Royal Scot" 4-6-0, by Mr. W. H. Brittain, of Wellington, and a 5-in. gauge G.E.R. "Claud Hamilton" 4-4-0 in blue livery, by Mr. C. T. Burrows, of Weybridge. Mr. R. D. Rowell, of Shoreham-by-Sea, exhibited an "0" gauge ¼-in. scale 4-8-2 type and another fine model in class one was by Mr. V. E. Blyth, of Ilford, a 5-in. gauge "Princess Royal" Pacific. Among the class two exhibits, special mention may be made of a Drummond "T9" class 4-4-0 to 4-mm. scale, by Mr. D. A. Williams, of Beckenham, and another pre-grouping model, by Mr. E. H. Whittaker, of Timperley, of a 16·5-mm. gauge Aspinall 0-6-0 goods locomotive. Other sections of the exhibition, which is open until August 27, include the usual trade stands, as well as the loan and junior sections.

TEMISCOUATA RAILWAY PURCHASE OFFER.—The Temiscouata Railway Bondholders' Committee announces that a meeting of holders of provisional certificates has been called for August 25 at Winchester House, London, E.C., to approve an offer to purchase the railway made by Canadian National Railways, acting as agent of the Government of Canada. It is anticipated that, after payment of costs, expenses and compensation, an eventual repayment will be made to certificate holders of approximately 18 per cent. of the face value of the certificates. The system is 113 miles long, and operates wholly within the Province of Quebec.

Ruislip Car Depot, London Transport

The second of the two depots for routine examination and repair of the 627 Central Line cars

AN integral part of the general scheme for extending the Central Line both eastward and westward was the provision of new car depots at each end. Hainault (at the eastern end) came into full service in May, 1948, when the line was extended from Newbury Park to Hainault. At the western end, the important new depot at Ruislip was opened in November, 1948, at the same time as the extension of the Central Line from Greenford to West Ruislip. Brief details of this depot were given in our November 26 issue.

We now publish an excellent general view of the depot and amplify the brief particulars (principally constructional) given in our previous article. This depot was built before the war, but was requisitioned by the Admiralty, and a great deal of work had to be done to get it ready for the opening of the Central Line extensions.

Ruislip is laid out to conform to the standard design now being used by London Transport. The outstanding feature of the buildings is the excellent constructional design, which permits the maximum daylight to enter. The main shed contains sixteen roads, of which nine pitted roads each accommodate one eight-car train for cleaning and inspection, in addition to stabling.

The next four roads, each of which takes two eight-car trains, have side pits used for the shop inspection of trains. The track is laid on walls which provide pits on each side of the running rails as well as between them; this greatly eases the work of overhauling the trains, especially those of the latest design in which equipment is carried beneath the car floor.

The remaining three roads, of which two are pitted, are used for lifting and carrying out heavy repairs which necessitate a car being lifted from its tracks. These three roads are spanned by two 15-ton overhead travelling cranes and are connected at their mid-point by a traverser which enables a car to be moved sideways from any one road to another.

Along the south side of the main building are situated the administrative offices, machine shop, stores, locker-rooms, and canteen. The machine shop is separated from the main shop by a partition. It has sections for mechanical and electrical fitting, battery charging, smithing, and welding, and incorporates a modern spare parts store.

Interior cleaning of trains is done on the nine stabling roads in the car sheds. The upholstery is vacuum-cleaned by hoses and nozzles inserted into suction points located at intervals along the roads. The car floors are swept out and the sweepings placed into hoppers at the ends of the roads; from these hoppers the rubbish is drawn by a "cyclone plant" to a main collecting hopper, from which it is fed by gravity into an incinerator. Similar refuse disposal hoppers are placed along seven outside stabling roads, each of which accommodates three eight-car trains.

For the nine stabling roads in the main shed, trains can be moved direct into one of the three roads of the cleaning shed, where the car exteriors are "acid"-washed by hand before they are moved out to travel slowly through a washing shed in which water jets play on the train while motor-driven felt strips wipe off the dirt. Access to and from the running lines may be gained at either end of the depot. The tracks in the outside yard provide ample accommodation for cars waiting shop attention, and permit trains to be reformed—and even shunted—while others are entering or coming out of service. High-powered projectors mounted on concrete poles provide good light for night work in the yard, and a loud-speaker system is employed to call trains into service and assist in marshalling movements.

This depot and the one at Hainault are carrying out the routine examination and repairs to the 627 cars of the Central Line, leaving only exceptional repairs and the four-yearly major overhaul of cars to be undertaken at Acton.

The old White City depot, which was replaced when Ruislip was opened, is now being converted for use partly as stabling sidings, and partly for storage purposes. The entire equipment from Wood Lane, comprising some 200 tons of machinery and stores, was moved in one day to Ruislip last November, together with the whole staff of about 200 men.

The difficulties at White City depot will be appreciated when it is realised that it was built originally in 1904 for six-car trains and had undergone only minor alterations since. The increased length of the trains caused them to project beyond the end of the inspection pits and of the sheds themselves, which necessitated the trains being divided or shunted so that work might be carried out on the portion left outside.

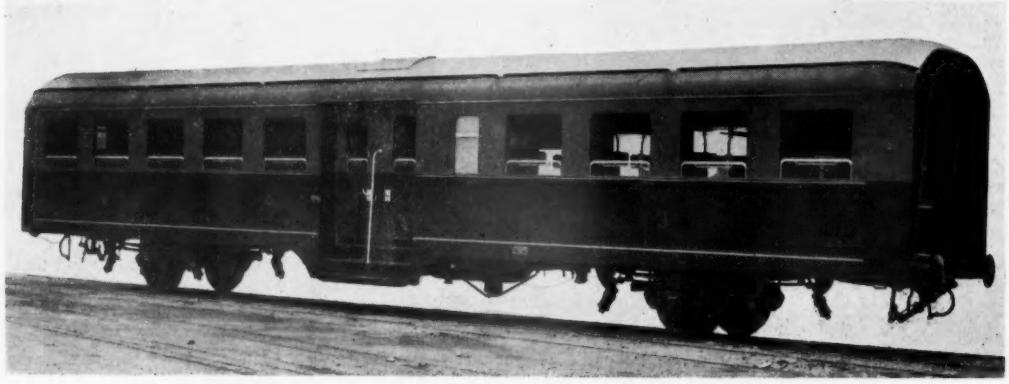
The lifting shop accommodated five cars only, and the increased length of the cars prevented both trucks from being removed at the same time, causing double-handling of the work. Also, the lighting, track layout, and staff amenities were inadequate.

New Italian Coaches for Local Services

Streamline four-wheel coaches of all-welded construction mounted on radial trucks

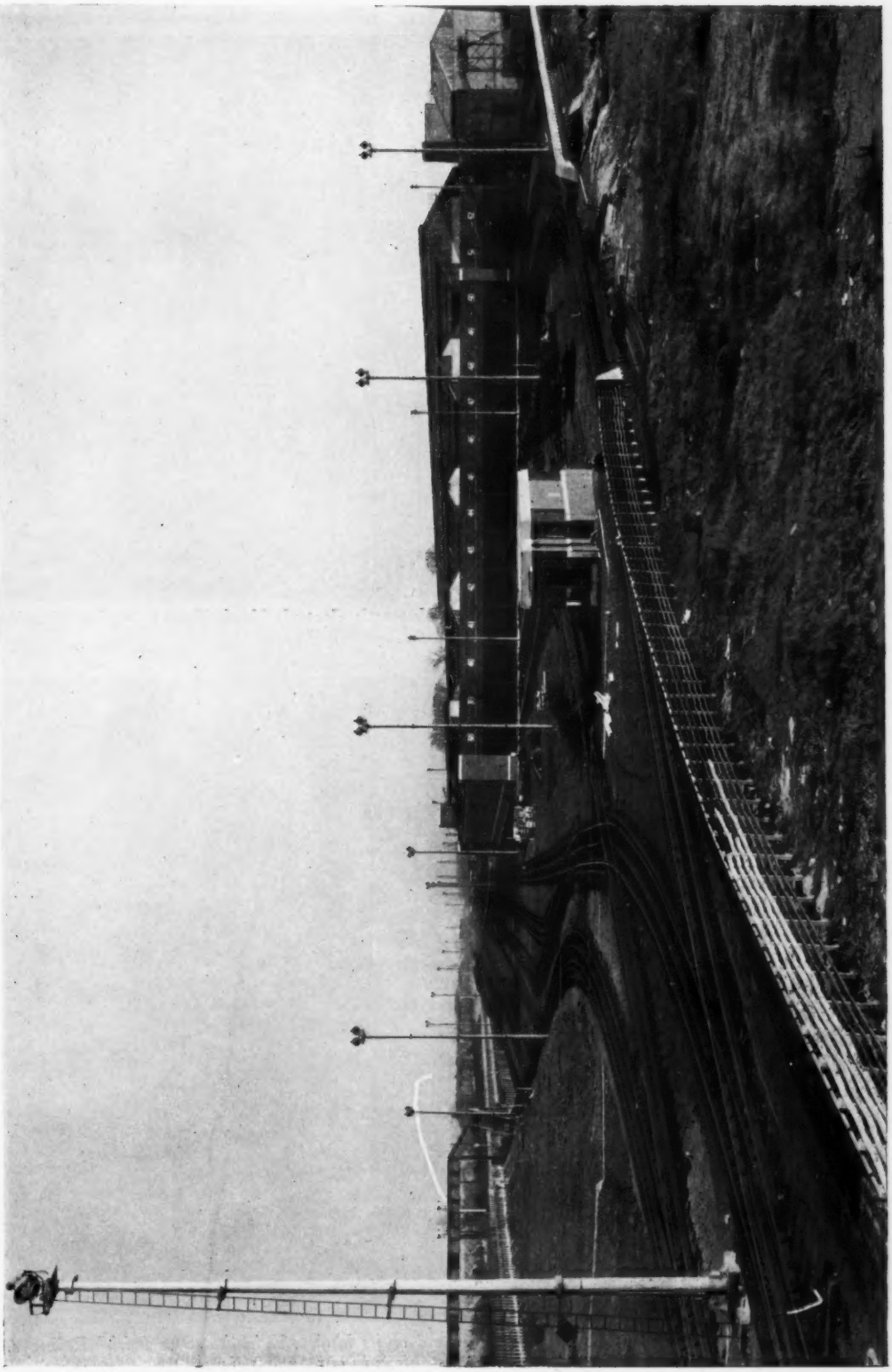
THE Italian State Railways have placed in service four-wheel third class coaches for local services, known as the C.I. type. Passenger accommodation consists of two centre-corridor saloons, one with 40 and the other with 36 seats, separated by a wide entrance vestibule with double leaf side doors and two additional seats. A lavatory adjoins the smaller saloon. The entrance vestibule affords the only side entry and exit, though vestibule gangway connections are provided at the ends, which are streamlined. The body is of all-welded tubular construction. Windows are suspended by a new design of sensitive balance mechanism and can be raised or lowered readily with a touch.

A remarkable feature is the mounting of coaches on two-wheel radial trucks, with a special arrangement of bearing surfaces which permits smooth running at speed. Lighting is by accumulators and heating is by steam, with provision for subsequent installation of electrical heating. Electrification necessitates the use in Italy, as elsewhere on the Continent, of special heating-vans (*heizwagen*, as they are called in Central Europe), for non-multiple-unit stock. The length, however, of many trains today makes heating vans inadequate for heating during extreme cold. Installation of electrical 3,000-volt heating equipment in some Italian State electric locomotives and in coaches for internal services only, began last year. Heaters are placed under the seats in the saloons, with controls placed in convenient reach of passengers. Experiments are being conducted to decide finally on the standard type and voltage to be used; through working over foreign railways raises a number of technical problems.



Four-wheel third class coach for local services on the Italian State Railways

Ruislip Car Depot, London Transport



General view of the depot from the west, showing the main shed of 16 roads. The yard lighting projectors on concrete poles will be noted. The running tracks of the Central Line and the Western Region are on the extreme left of the picture

British Railways Modernised Refreshment Rooms

View of long bar in modernised refreshment room, Newcastle Central, North Eastern Region, showing separation of licensed and unlicensed bars

New cafeteria counter at Newcastle Central, the second of its kind to be instituted on British Railways.
(See also editorial note and illustrations in our June 24 issue)

RAILWAY NEWS SECTION

PERSONAL

Mr. George Rollason

Mr. George Rollason has been appointed Deputy Chairman & Managing Director of Transport (1910) Limited, the company owning *The Railway Gazette* and twelve other technical journals, covering the basic industries of the country, which have become known as the Tothill Street Group. In this appointment Mr. Rollason succeeds Mr. J. A. Kay, whose death occurred on July 8.

Mr. Rollason, who was formerly Joint Managing Director, was closely associated with Mr. Kay for many years, and has taken a prominent part in the establishment and development of the papers forming the group.

RAILWAY EXECUTIVE APPOINTMENTS

The Railway Executive announces the following appointments:—

Mr. T. M. Herbert to be Director of Research.

Mr. T. W. Brown to be Materials Inspection Officer.

Mr. G. M. Leach to be Assistant to Chief Officer (Continental).

Khadr Gabr Bey, hitherto Inspector-General, Traffic & Goods Department, has been appointed Deputy General Manager, Egyptian State Railways.

We regret to record the death, in California, of Mr. C. L. Burdick, founder, and for many years Chairman & Managing Director, of the Aerograph Co. Ltd.

Mr. C. T. Grey has been appointed Chief Mechanical Engineer of the Eritrean Railways & Ropeway.

Mr. G. F. Lucas, Manager of the Argentine Branch of John I. Thornycroft & Co. Ltd., left London recently for Buenos Aires.

The British Transport Commission has appointed a committee to report on the transport requirements of Glasgow and adjacent areas and to make recommendations to the Commission. The committee is composed as follows:—Sir Robert Inglis (Chairman); Mr. Robert Beveridge, General Manager, Scottish Omnibuses Limited; Mr. I. R. Frazer, Assistant Civil Engineer, Scottish Region, British Railways; Mr. F. A. Harper, formerly Electrical Engineer of the L.M.S.R. and latterly of the London Midland Region, British Railways; Mr. A. F. Moss, District Operating Superintendent, Glasgow, Scottish Region, British Railways; Mr. H. R. Statham, District Commercial Superintendent (Passenger), Glasgow, Scottish Region, British Railways. Sir Robert Inglis was Divisional General Manager, Scottish Area, L.N.E.R., from 1941 to 1946, but was released to the Government in 1944 to serve as Chief of Transport in charge of railway, road, and inland water transport, docks and shipping in Germany.

Mr. W. Cyril Williams, F.R.G.S., A.M.I.C.E., M.I.Mech.E., M.I.Loco.E., M.Inst.T., who is President of the Institution of Locomotive Engineers for 1949-50, is an Executive Director of Beyer, Peacock & Co Ltd. He commenced his railway work in 1906 with a five-year apprenticeship with the Natal Government Railways; his training also included running shed, signal department, footplate and drawing office experience; and he attended the Durban Technical Institute, obtaining the Abe Bailey Scholarship in 1909, the James Brown Exhibition in 1910 and the Institute Scholarship in 1911; in 1912 he became for a short time a lecturer at the Institute. In 1913 Mr. Williams was appointed a junior engineer to the Chief Superintendent of Motive Power at Johannesburg. During the 1914-18 war he held a commission in the South African Engineer Corps, and served through the campaign in German South West Africa, at first being Locomotive Foreman at Usakos and later holding the rank of Assistant Superintendent (Mechanical) with the rank of Captain in the Railway Regiment. He then went to France in the Royal Engineers, and was promoted in the field to the appointment of Army Locomotive Superintendent, Second Army Light Railways. In 1919 Mr. Williams went to the U.S.A. and Canada on behalf of the South African Railways, where he spent a year inspecting locomotives, wagons and other equipment; and on his way back to South Africa he acted for a short time as the S.A.R. Advisory Engineer in London, eventually returning to duty in South Africa on the staff of the Assistant General Manager at Durban. In 1923 he joined the firm, and opened the London office, of Beyer, Peacock & Co. Ltd., on his appointment as its London Manager. He was subsequently designated Sales Director of the company, and in 1945 was elected to the board. During the past 26 years he has in the course of his duties travelled widely, visiting the African and South American Continents many times, also Iran, India, Burma, Australia, Europe, including His wide knowledge of railways is well known, and his energetic advocacy of, and part played in the evolution of, his firm's speciality, the Garratt articulated locomotive, have done much to secure its adoption by railways in many parts of the world. Mr. Williams has contributed many articles to the press.

Mr. W. Cyril Williams

Elected President, Institution of Locomotive Engineers, for 1949-50

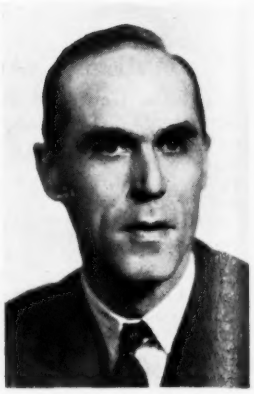
Mr. K. R. Ellson, A.M.Inst.T., who was appointed Public Relations Assistant to the Public Relations & Publicity Officer, Southern Region, under the recent reorganisation of the Public Relations & Publicity activities of British Railways, was educated at St. Lawrence College, Ramsgate, and in 1923 joined the Southern Railway in the Divisional Engineer's Office at London Bridge. After service in the New Works Department, he was appointed, in 1933, Assistant to the Chief Engineer for Special Purposes. A year later he was transferred to the Traffic Department, and appointed Assistant to the London East Divisional Superintendent, and afterwards as Assistant to the Traffic Manager. From May, 1940, Mr. Ellson was seconded to the Railway Unit of the Home Guard, and in 1942 was appointed to command the 12th Surrey (3rd S.R.) Battalion, Home Guard. In 1943 he was made Assistant (Public Relations), and in 1948 a member of the Railway Executive Public Relations Committee.

Mr. G. R. Walter, A.C.G.I., A.M.I.C.E., who was recently appointed Publicity Assistant to the Public Relations & Publicity Officer, Southern Region, British Railways, was educated at King's College School, Wimbledon, and Imperial College. After experience in tube construction as pupil to Sir Harley H. Dalrymple Hay, he joined the Southern Railway in 1926 in the Chief Engineer's New Works Department. He was transferred in 1932 to the Advertising & Public Relations Department, becoming Indoor Assistant in 1936, and Public Relations Assistant in 1938. In September, 1941, Mr. Walter was lent to the Ministry of War Transport to act as Regional Fire Prevention Officer, returning to the Southern Railway in September, 1942. In 1944 he was appointed Assistant (Advertising) and in 1948 was a member of the Railway Executive Advertising Committee.

Mr. K. R. Ellson
Public Relations Assistant, Southern Region

Mr. G. R. Walter
Publicity Assistant, Southern Region

Mr. J. H. Wells
Public Relations Assistant, Western Region

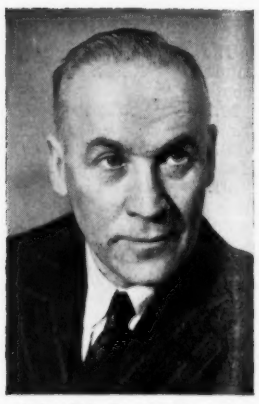


Mr. R. F. Hurford
Publicity Assistant, Western Region

Mr. T. A. Germaine
Public Relations Assistant, Eastern Region

Mr. S. Bollon
Publicity Assistant, Eastern Region

Mr. H. J. Price
Public Relations Assistant, N.E. Region



Mr. W. D. McDonald
Publicity Assistant, N.E. Region

Mr. J. H. Wells, who is now Public Relations Assistant to the Public Relations & Publicity Officer, Western Region, British Railways, entered the Advertising Department of the Great Western Railway in 1909. He served with the Royal Fusiliers and the Queen's Regiment from 1914 to 1919. After his return to railway service he was employed in the Accidents & Block Working Section of the Office of the Superintendent of the Line for eighteen months. Returning to the Advertising Department in 1920, he had charge of the Press Advertising Section until his appointment as Chief Clerk in the Publicity Department in 1945.

Mr. R. F. Hurford, who is now Publicity Assistant to the Public Relations & Publicity Officer, Western Region, British Railways, joined the Great Western Railway in the Traffic Department at Exeter in 1911. He served with the Royal Marines during the 1914-18 war. He was subsequently attached to the Cardiff and London Traffic Divisions, and joined the staff of the Superintendent of the Line on the formation of the Trade Advertising Department in 1930. He was appointed Trade Advertising Agent in 1939, and combined with that post the duties of Acting Publicity Officer from 1942 to 1943, when he was made Assistant Publicity Officer.

Mr. T. A. Germaine, O.B.E., who is Public Relations Assistant to the Public Relations & Publicity Officer, Eastern Region, British Railways, was born on February 21, 1914, and educated at the City of London School. He joined the L.N.E.R. in the Southern Area Locomotive Running Superintendent's Office in 1930, and, after obtaining operating and commercial experience, transferred to the Chief General Manager's Office in 1938. Mr. Germaine, who had joined the Artists' Rifles (T.A.) in 1934, was commissioned in the Border Regiment in 1939. He was seconded to the airborne forces in 1941, and was closely associated with experimental parachuting. He was appointed War Office representative at the Ministry of Aircraft Production in 1943, with the rank of Lt.-Colonel. For his services he was awarded the O.B.E. (Military). Mr. Germaine returned to the L.N.E.R. Chief General Manager's Office in 1946, and took charge of the company's Press Relations Office in Manchester later that year. In 1948 he transferred, on promotion, to the Staff Office, Eastern Region, and took up his present post last April.

Mr. S. Bollon, who is Publicity Assistant to the Public Relations & Publicity Officer, Eastern Region, British Railways, was educated at the Stationers' Company School, and joined the Great Northern Railway as a junior clerk in 1920. After a period at Kings Cross Goods he went to the Chief Goods Manager's Statistical Office, and later to the Canvassing Office of the L.N.E.R. After some station experience, he was transferred to the Advertising Department in 1927. In 1931 Mr. Bollon was appointed Junior Canvasser, Commercial Advertising Department, and in 1932 was promoted District Commercial Advertising Agent in Glasgow; further promotion to a similar position in London followed in 1937. In 1946 he was appointed L.N.E.R. (Southern Area) Advertising Representative.

Mr. H. J. Price, who is Public Relations Assistant to the Public Relations & Publicity Officer, North Eastern Region, British Railways, was educated at Maltby's School, Mansfield, and joined the Great Central Railway in Manchester in 1919. In 1923 he went to London to the Locomotive Running Superintendent's headquarters of the L.N.E.R., Southern Area; and, after 14 years operating and staff experience, he was appointed Personal Clerk to the Passenger Manager. In 1941 he was chosen to open an area Press Relations Office in Manchester for the L.N.E.R. Mr. Price transferred to the Chief General Manager's Office in London in December, 1946, as Assistant to the Press Relations Officer.

Mr. W. D. McDonald, who is now Publicity Assistant to the Public Relations & Publicity Officer, North Eastern Region, British Railways, was appointed Area Representative to the Advertising Manager, L.N.E.R., in August, 1947, and had previously been Chief Clerk and Head of Production Section in the Advertising Manager's Office at York. He commenced his railway career in Scotland in 1913. Mr. McDonald joined H.M. Forces in September, 1916, and on demobilisation in

May, 1919, he returned to Turriff as a clerk on the Great North of Scotland Railway. He later went to the Advertising Department, L.N.E.R., Edinburgh, where he was Chief Clerk for ten years before his transfer to York in 1946.

The late Mr. J. A. Kay

The following are appreciations of the late Mr. J. A. Kay, Editor of *The Railway Gazette*, 1910-49, further to those already published:—

Your issue of July 15 has just reached me, and I have read with great regret of the death of Mr. Kay. As a reader of *The Railway Gazette* since 1920 I have had the opportunity of appreciating the work of Mr. Kay in railway journalism.—B. L. LEONDOPOULOS, *Assistant General Manager, Hellenic State Railways.*

I am deeply grieved to read of the untimely death of my old friend, Mr. J. A. Kay. We first met during the 1914-18 war in the office of my then chief, the late Mr. Charles Aldington, himself a warm friend and admirer of Mr. Kay's professional acumen. To me, as to countless other railwaymen, *The Railway Gazette* has always been an authoritative and welcome guide in railway affairs. When entrusted with the management of a Colonial railway, both I and my officers found it of constant value in keeping us technically informed. I have affectionate memories of a friend, and the railway world has lost a courageous mentor of great personal charm.—G. V. O. BULKELEY, *formerly General Manager, Nigerian Railway.*

INSTITUTE OF TRANSPORT AWARDS

The Council of the Institute of Transport has approved the following awards for papers during the 1948-49 session:—

British Transport Commission Award: to Mr. A. G. Marsden (Lever Bros. & Unilever Limited) for his paper on "Traders and the Transport Act, 1947."

British Transport Commission Graduate Prize: to Mr. K. J. Lee (British Railways, Eastern Region) for his paper on "Some Aspects of Handling Continental Passenger Traffic."

Road Transport (Passenger) Medal: to Mr. W. Luff (Blackpool Corporation Transport) for his paper on "Budgetary and Statistical Control of Road Passenger Transport."

Bristol & White-Smith Air Transport Medal: to Mr. J. W. S. Brancker (B.O.A.C.) for his papers on "Some Aspects of Passenger Comfort in Aircraft" and "The Effect of Nationalisation on Air Transport."

Bristol & White-Smith Student Prize: to Miss P. M. Powesland (B.O.A.C.) for her paper on "Carriage by Air."

Dock & Harbour Authorities Association Student Prize: to Mr. A. Bailes (T. Roddam Dent & Son) for his paper on "The Payment of Dock Workers under the National Dock Labour Board."

Institute Shipping Award: to Mr. C. H. Minett (Gray Dawes & Company) for his paper on "Pilferage in Shipworking."

Institute 1944 Award: to Mr. W. A. Winson (S.P.D Limited) for his paper on "Distribution in Reverse—the Work of the C.R.S."

Institute Graduate Award: to Mr. J. A. Kruger (South African Railways) for his paper on "Some Impressions of Operating Procedure and Conditions in Various Overseas Countries."

"*Modern Transport*" *Award*: to Mr. F. A. Costigan (Portsmouth Corporation Transport) for his paper on "Stores Organisation in a Transport Undertaking."

Eastern Region Course for Cartage Supervisors

Another course for cartage supervisors has just been held by the Eastern Region of British Railways at its training school at St. Ronan's, Hadley Wood, which followed very closely the lines on which previous courses have been run, being a residential course lasting a week and attended by supervisors from stations and district offices in all parts of the Region.

The greatest value derived from the course both by the supervisors and those running it, was from the free interchange of opinions, not only during the official working hours, but also during leisure time. Care was taken to avoid formal lectures, the procedure adopted being for each subject to be introduced by an opening speaker, who in about 20 minutes brought out the main points of his subject, creating an atmosphere for discussion. The remainder of the time was used for open discussion on an individual basis, or, when the nature of the subject permitted, on a syndicate basis.

The subjects under discussion were the same as those chosen for an all-Region course held at Hadley Wood last year, given in our issue of October 15, 1948, and for a course arranged by the Western Region of British Railways at Weston-super-Mare this year, reported in our May 20 issue.

Those attending were welcomed by Mr. C. G. G. Dandridge, Commercial Superintendent, Eastern Region, and from the spirited discussions which took place, and from the comments made, there can be no doubt that hopes for a successful course were amply fulfilled.

Diesel-Electric Building in Canada

General Motors Corporation has announced plans for immediate construction of a diesel-electric locomotive plant at London, Ontario. The plans call for a plant with 226,000 sq. ft. of floor space on a 210-acre site.

The plant will employ about 1,000 persons at capacity and will draw parts and materials from many Canadian sources. It will be able to produce one diesel-electric locomotive a day and will build locomotives for all classes of railway service.

Operation and distribution of locomotives made in Canada will be by a new subsidiary of General Motors to be known as General Motors Diesel Limited. The Canadian subsidiary will work in close co-operation with the electro-motive division of General Motors, the builders of diesel-electric locomotives in the United States, with principal plant at Lagrange, Illinois.

The Ontario Planning Minister said that the large-scale production of diesel-locomotives in Ontario will mean a tremendous step forward for Canadian railways, and will strengthen the Canadian economy. He added that the Ontario Government, "which has assisted in the establishment of the plant in Ontario, is gratified that the new diesel locomotive industry will mean new and varied employment for the skills of our people and thousands of dollars a year in orders to hundreds of Ontario companies which will be called upon to supply the plant with tools, parts, machinery, equipment and units for the assembly line. More than 20 municipalities in Ontario will benefit by work for their local industries. For instance, radiators will come from one part of the province, carriages for the locomotives from another, steel from another, and so on."

Gradual conversion by railways from steam locomotives to diesel power is opening a tremendous market for Canadian oil and should lead to the saving of millions of dollars annually in coal imports.

New Goods Locomotives in Soviet Russia

Heavier goods trains since the war have resulted in the design of experimental types of heavy steam goods locomotives. Two types have been selected and approved for serial construction. A common feature of all the new designs has been the increased power, envisaged at one and a half times that of the power developed by the L-type goods locomotives first built by the Putilow Works of Leningrad in 1924. The L-type goods locomotive is a 4-6-2, and has a service weight of 163 *tonnes*.

The two new types of goods locomotives which have been adopted were developed by the Kuibyshev locomotive works of Kolomna (south-east of Moscow) and by the "October Revolution" locomotive works of Voroshilovgrad. The type developed by the Kolomna works is an articulated locomotive, having the wheel arrangement 2-6-0+0-6-2, and with four cylinders. This makes the axle-load comparatively small, despite the higher overall weight and increased power. The locomotive has no streamlining, except smoke deflector plates which extend from the top of the smokebox over half the distance between the chimney and the cab front.

Trial runs have been successful, and trains of up to 3,500 *tonnes* have been hauled without difficulty. No further technical particulars are available at present.

The new goods locomotive developed by the Voroshilovgrad works embodies several original features. Its wheel arrangement is 2-10-4, and its axle-load is greater than that of the locomotive developed by the Kolomna works. A special feature is the mechanism arranged on both sides above the driving wheels, and which is intended to reduce hammer-blow. It is claimed that this enables the locomotive to operate on lines laid with any weight of rail without the necessity of strengthening the track.

The locomotive is partially streamlined. Two separate casings are provided, the lower casing extending from the height of the window sills of the cab almost to the front of the smokebox and covering the equilibrating mechanism, but leaving the rodding free. The upper casing extends from the front top of the smokebox right down to the cab, concealing the chimney and dome. The front plate of the upper casing has been replaced by a louvre.

The cabs of both locomotives are spacious and have two windows on either side. The tenders of both are nearly as high as the cab, and that of the Voroshilovgrad-built locomotive, which has two six-wheel bogies, has been built by the Bryansk locomotive works and is of frameless construction.

There are mechanical stoker, pneumatic reversing device, special fire-bar rocker, and central lubricating control in respect of the driving mechanisms.

Reorganisation of Local Goods Traffic in Denmark

Road and rail co-ordination scheme introduced

The railway transport of goods in wagon loads and in smaller consignments to country stations is relatively expensive, and the goods trains, which stop at all intermediate stations, occupy the line for a long time, require many locomotive- and man-hours, and consume much fuel.

Before the war the State Railways had begun operating "local" goods trains, which ran from a town to the two or three nearest country stations, conveying all types of goods. These trains were hauled normally by the town station shunting engine. This arrangement proved a success, but had to be stopped during the war.

With road competition again growing, the railways decided to go on the roads themselves. From May 15 the goods traffic has been arranged experimentally on a new system on the Copenhagen—Gedser and Nyborg—Fredericia—Aalborg lines, in all about 318 miles.

Slow goods trains will be withdrawn and replaced partly by "local" goods trains and partly by lorries. In future, freight for the small country stations will be carried by rail to centres in the provincial towns, the distance between which will be about 20-30 miles. From these centres the wagon-load traffic for country stations will be carried by "local" goods trains, hauled by the town shunting engine. The same engine will return with the wagons, which will have been loaded during the day. The less-than-wagonload traffic will be loaded from the centre goods shed into lorries, eventually with trailers, which will run to the country stations and also directly to the traders on the route and bring and collect goods at the door.

The main object is, however, not to fight road competition, but to save expenses. Between Fredericia and Aarhus, 68 miles, there are at present two stopping goods trains (one each way), which occupy the line for 20½ hours, requiring 15 guards and 8 drivers and firemen every weekday. These trains will now be cancelled, and by the new arrangement a better and in many cases quicker service will be provided, whereby it is hoped to keep the present amount of traffic and probably obtain new traffic. A saving in the use of locomotives and of covered goods wagons, now of considerable importance, is made.

The wagon-load traffic to country stations is small and some stations have not even one wagon a day. This traffic will be carried in some cases in existing goods trains, and in others the town station shunting engine will be used for running light goods trains from the towns to the nearest country stations.

Arrangements with Private Carriers to Cease

At present the State Railways have arrangements at most stations with private carriers, who bring goods to the customers in the district. For this service the carriers receive payment per parcel, and, further, the State railways in many cases must provide a subsidy in the form of a fixed sum per month to the carrier. This arrangement will now cease. The State Railways lorries will run from the centres not only to the country stations, but also bring the goods directly to the customers and at the same time collect goods.

The present station staff will provide drivers for the lorries. The drivers generally will be alone on the lorry, when driving in the trade district, while the country stations may well assist with loading and unloading of the goods at the goods shed and in the village itself.

The driver will receive a driver's normal weekly wage, but it is intended to allow him a percentage of the payment for the parcels he collects for despatch on the railways. The idea is to link the driver, more than a normal station worker, to the railways, and also to make him anxious to obtain more goods for the railways from old or new customers. Drivers who maintain their lorries in good working order will receive a premium at the beginning of the year.

Express goods will be carried in passenger trains as now, but where practical, the lorries will also take express parcels. The lorries will be 5-tonners, and the trailers 4-tonners.

On the local goods trains, hauled by the centre station shunting engine, the driver will be the normal driver of the shunting engine. When running on the main lines two men on the engine are necessary, the second normally a fireman, but in this case the second man will be from the station staff, a shunter or a station worker.

Consignment notes will be issued as hitherto from or to the country station, and the collection and delivery service will be paid specially. There is thus no alteration in rates, but only in service.

It is estimated that the saving from the cancellation of certain goods trains amounts to about kr. 2·16 million, and while the additional expense of running the lorries, etc., amounts to kr. 0·566 million, so that the net saving should be kr. 1.59 million. In addition are savings in expenses on the present delivery service and other savings, difficult to estimate. The figures relate only to the aforementioned lines, and if the system is extended later to the whole State Railways system the figures will be correspondingly higher.

In personnel it is calculated that there will be a net saving of about 100 men, mostly drivers, firemen and guards. More than 20 lorries and about 10 trailers will be acquired.

Ventilating and Draining the Stockholm Underground

In the June issue of *Sparväg och Buss*, the monthly journal of the Stockholm Transport Board, are given details of the ventilation and drainage equipment of the new Stockholm Underground, the progress of which was described in our issue of January 21 last.

To protect the stations from the violent air currents caused by the piston effect of the trains, so-called auxiliary ventilation shafts are being provided near each end of the platform. The air pushed through the tunnel by the approaching trains will then escape through this short-cut, and will not whirl through the platforms and escalator tunnels.

During the summer, however, the "natural" ventilation caused by the trains is not regarded as sufficient to dissipate the heat caused by the working of eight-car trains at frequent intervals. Intermediate ventilation shafts, equipped with fans, will therefore be provided halfway between certain stations; the first will be installed between Radmansgatan and Kungsgatan stations.

During the winter it is intended to reverse the air current and use the ventilators for the intake rather than exhaust. The air will then be warmed by the heat engendered by the trains in the tunnels before it approaches the stations. The ventilator fans will eventually be operated by remote control from a central control switchboard.

To protect kiosks at the stations from dust carried by the air currents, special fans will be installed to maintain a high air pressure inside, while underground lavatories and canteens will have separate air exhaust systems.

Drainage of the tunnels is required to dispose of any occasional ingress of water which may be caused by the cleaning of platforms and tunnels or even bursts in water mains. A special tunnel-cleaning car which will pass through the tunnels at night and direct a spray of water at the roof, walls, and sole, is envisaged. The water will be drained through concrete pipes with open joints, discharging either into the nearby lakes or into pump sumps, where two automatic float-operated centrifugal pumps, each rated for 15 litres a sec., will pump the water up to the level of the general drainage system. Provision will be made for the installation of a third pump if required.

Private Railway Sidings in Switzerland

Dr. Josef Fahm, of the Swiss Federal Railways, contributes an article to *Schweizerisches Archiv für Verkehrswissenschaft und Verkehrspolitik* on the role of private sidings in Switzerland. There were, in 1945, 1,262 sidings and private goods depôts in the country, totalling about 380 miles of track of all gauges, and dealing with 55 per cent. of all goods traffic.

About 70 per cent. of the number of private sidings, and 80 per cent. of siding mileage are on the Swiss Federal Railways, which constitute barely one half of the total route-mileage, 3,600 for all gauges, including mountain railways. The reason for this is the concentration of industry for many years past in the west and north of Switzerland in the area now served by the Federal Railways. Construction of private sidings began soon after the opening, in 1847, of the Zürich-Baden Railway —the first Swiss railway—and was the subject of early railway legislation, and notably of the First Railway Law of 1852, and of the Federal Act of 1874; the latter covers a number of aspects of construction and working of private sidings and goods stations, and questions of ownership or use by three or more parties are dealt with in detail.

This is claimed by Dr. Fahm to be the most comprehensive of any railway law on this subject. Even so, many questions have since arisen, including that of electrification. Bearing in mind that the great majority of lines are exclusively electrically worked, the law as a result of an agreement between the Swiss Federal Railways and the Association of Private Siding Owners is in essence that the Federal Railways instal overhead equipment for a distance not exceeding 55 yds. along the private siding from the junction with their running line or exchange siding. Demurrage is fixed by law at 3 fr. per wagon per day after 10 hr. Other legislation governs door-to-door transport of railway wagons by transporters (*strassenrollen*), and with the working of railway traffic at private

wharves on the Rhine, in and near Basle, which handle sea-going craft.

The growth of industry in Switzerland, combined with a rise in land values precluding purchase of directly rail-served factory sites, has doubled the mileage of private sidings in the last 30 years, more particularly during the second world war, with its shortages of rubber tyres and petrol. Road haulage is now on the increase.

In the larger cities, however, town planning tends to group industrial plants on sites easily served by jointly-owned sidings or private goods depôts. The canton of Basel-Stadt has planned a joint private goods station on the outskirts of the city of Basle, where 214 industrial concerns under varying conditions of tenure share some 12 miles of track covering an area of 100 acres.

The "Porrettana" Line

At the conclusion of the most difficult reconstruction of a war-damaged railway in Italy, the trans-Apennine "Porrettana" line between Bologna and Pistoia was restored to traffic throughout on May 29. Sections of the northern part were reopened for local traffic as the work progressed, as mentioned in our issue of October 24, 1947. The line is single between Bologna and Pistoia, 61½ miles (99 km.) where it connects with the northern Pisa-Florence line. The Bologna-Porretta-Pistoia-Florence route was part of the Milan-Bologna-Rome main line until 1933, when it was replaced by the new double-track line between Bologna and Florence to the east of the old line. Since then, the old line has acted as a relief route for the through traffic, and has served local needs. It was electrified before the completion of the new Bologna-Florence line.

The line was heavily damaged by the retreating Germans in 1944, and at one time it seemed that its reconstruction would not be justified in view of the heavy expenditure entailed and of its comparatively limited importance, but restoration was decided on and the first section, from Bologna to Porretta Terme, 37 miles, was opened for steam trains on October 8, 1947; a few months later traffic was extended from Porretta Terme to Pracchia, 9¼ miles. The greatest difficulties had to be overcome on the last section between Pistoia and Pracchia, 15½ miles, where 24 tunnels totalling 13,120 ft. and six bridges had to be entirely rebuilt, including Fabbrica, Fabbricaccia, and Castagno, which are among the highest railway bridges in Italy. They were formerly of stone masonry work, each consisting of three tiers of arches, but were rebuilt in non-reinforced concrete, with seven, six and eight arches respectively.

Between Pistoia and Pracchia there are many severe curves, some loop tunnels, and heavy gradients. From Pistoia, 206½ ft., the line rises to 459 ft. at Valdibrana (3¼ miles), to 954½ ft. at Piteccio (7½ miles). There is a further steep climb to Corbezzi (11¼ miles), where the altitude is 1,578 ft. Corbezzi Station occupies so cramped a position that the passing loop, the sidings, and an avoiding line had to be placed in tunnels and there are therefore six tunnels converging on to the station. From Corbezzi the line rises again to Pracchia (15½ miles), the summit of the line (2,217 ft.). The three station buildings and 19 linemen's houses between Pistoia and Pracchia had to be rebuilt completely. The complete reconstruction took two years and ten months and the expenditure totalled lire 1,480 million.

Before the completion of the reconstruction of the whole line, trains between Bologna and Porretta Terme were steam-worked and the shuttle services between Porretta Terme and Pracchia were operated by railcars. The re-electrification of the whole line was complete, however, when the Pistoia-Pracchia section was reopened to traffic, although the sub-stations at Valdibrana (Vaioni) and Porretta are not yet finished. For the present, therefore, the current is fed by the two existing sub-stations at the northern and southern ends of the line, Bologna San Viola and Florence Rifredi, about 80 miles apart. To obviate difficulties from the loss of tension over such a distance the electric locomotives on this route have been fitted with special equipment and corresponding installations have been put into service at certain points along the line. Before the war, with the same object, one of the State Railways travelling sub-stations was stationed at Pracchia. This experiment will be studied in the light of its possible extension to secondary lines of which electrification is planned. Expenditure on the overhead system for the entire Bologna-Pistoia line amounted to lire 280,000,000 and signal and safety installations cost lire 100,000,000.

Loetschberg Railway in 1948

Despite a decline in the number of passengers carried, as well as in the volume of the goods traffic, the working receipts of the Berne-Loetschberg-Simplon Railway, benefiting from the increase in fares and rates in force from February 1, 1948, increased to fr.22,664,246, exceeding the total of fr.19,380,000 for 1947 by about 17 per cent. Passenger receipts accounted for fr.8,515,323 (about 10½ per cent. more) (fr.7,700,000), goods, livestock, baggage and mail receipts for fr.11,777,965 (fr.11,170,000), and miscellaneous receipts soared to fr.2,370,957 from fr.514,000 in 1947 in accordance with the modifications introduced in the tariff and accountancy structure of Swiss railways.

The number of passengers carried decreased slightly to 5,340,363 from 5,376,432 in 1947. The goods traffic amounted to 1,627,424 *tonnes*, inclusive of mail conveyed, as compared with 1,648,761 in 1947. There was an expansion during the first half of 1948 as against the comparable period in 1947, but a rapid fall set in after July, resulting in the total for the second half of 1948 being appreciably lower than that in the same months of 1947. Baggage conveyed aggregated 12,136 *tonnes* (11,924 *tonnes*); 70,948 head of livestock was conveyed as against 78,448 in 1947. The goods traffic proper, exclusive of baggage, mail, and livestock, yielded fr.10,577,040, an increase of about 6 per cent. over the total for 1947 (fr.9,987,713). Consignments in transit on the Loetschberg line amounted to fr.7,620,384, the local goods receipts accounting for only fr.391,834, and originating consignments for fr.2,564,821 Livestock receipts totalled fr.273,220 (fr.266,445) and mail receipts fr.553,883 (fr.539,466). Baggage receipts were somewhat lower at fr.373,822 (fr.374,337).

As against this, the working expenditure increased considerably by more than 35 per cent. to fr.17,417,771 from fr.12,832,265 in 1947. In this, salaries, wages, and socal services accounted for fr.9,800,856; materials, stores, rents, and other items totalled fr.7,616,915. The working surplus diminished to fr.5,246,476 from fr.6,546,294 in 1947. This enabled the company still to meet all financial commitments including payment of interest on the second mortgage at the highest rate envisaged, 4 per cent.

Passenger trains totalled 1,428,713 train-km. (of which lightweight railcars accounted for 118,489) compared with 1,385,337 in 1947 (109,331 in respect of lightweight railcars), while goods trains totalled 448,573 train-km. (382,014).

At the end of 1948 the motive power consisted of 24 electric locomotives (20 for fast trains), eight railcars, including one railcar set, and one steam locomotive. At the same date, the coaching stock consisted of 77 vehicles, and the goods rolling stock of 237 units. The company operates also shipping services on the Lakes of Thun and Brienz. To the combined fleet of 17 vessels (11 steamers, 6 motor vessels), a diesel motor vessel with a carrying capacity for 400 passengers will be added in 1950. The hull of this unit was built in Antwerp and conveyed in sections to Bönigen (east of Interlaken on the Lake of Brienz) where it has been assembled in the yard and where it will be completed. In 1948, 1,064,043 passengers were carried on both lakes, against 1,235,970 in 1947, and accounts closed with a working surplus of fr.71,000 against fr.113,300.

After depreciation amounting to fr.2,192,306, which covers the railway and shipping accounts, and after meeting all commitments the profit and loss account closed with a credit balance of fr.113,858 (fr.113,048), consisting of the latter amount as at December 31, 1947, and fr.810 as the credit balance from 1948. The balance sheet showed a balance sum of fr.166,344,470 (fr.166,260,000).

North American-Built Locomotives for India

Thirty-three Canadian-built 4-6-2 locomotives were loaded for shipment to India on the Norwegian freighter *Belocean* at Montreal on June 29, when an impressive dedication ceremony took place in the presence of diplomatic and government representatives. From a silver urn, the wife of the Indian High Commissioner to Canada poured sacred water from the Ganges on the last of the locomotives to be loaded on the vessel. She then named the engine *Asoka*, in memory of the humanitarian Indian ruler of the third century B.C.

The engines are part of a shipment of 200 of the 4-6-2 type, Class WP, built by the Montreal Locomotive Works and the Canadian Locomotive Company. One hundred more, built by the Baldwin Locomotive Works, Philadelphia, have already been delivered in India. Sir Frederick Carson, Executive Vice-President of Montreal Locomotive Works, remarked that it was the first time that broad-gauge locomotives, fully assembled, had been shipped from Montreal.

IRON AND STEEL PRICES ALTERED.—Maximum prices of certain iron and steel products have been altered, from August 16, by an Order made by the Minister of Supply. The principal alterations are: (i) reductions in the prices of galvanised sheets, tubes, wire nails, terneplate and alloy steel black bars; and (ii) an increase in the price of alloy steel bright bars. Copies of the Order—the Control of Iron & Steel (No. 73) Order, 1949—may be obtained from H.M. Stationery Office or from any bookseller.

Ministry of Transport Accident Report

Bainton public level crossing, London Midland Region, British Railways: November 23, 1948

Brigadier C. A. Langley, assisted by Lieut.-Colonel D. McMullen, Inspecting Officers of Railways, inquired into the accident which occurred at about 8.3 a.m. on November 23, 1948, at Bainton Public Level Crossing, near Uffington & Barnack Station, London Midland Region, when the 7.12 p.m. freight train, Peterborough to Stamford, running at about 25 m.p.h. and composed of 18 wagons and van drawn by a Class 2 (P) 4-4-0 engine, struck the second of two horse-drawn carts, demolished the gates and killed the woman gatekeeper, who was standing in the 6-ft. way. The weather was foggy, with visibility about 45 yd., and the rails greasy.

The accompanying diagram shows the layout and situation of the crossing, adjacent signal boxes, etc., essential to an understanding of the circumstances of the case

The gates are single without targets, but there is a bracket for a lamp on the up side gate. There are unlocked wickets for pedestrians. The gatekeeper was resident and in attendance throughout the 24 hours, except when relieved periodically. It took about 1½ min. to walk from the house and open both gates. There is a telephone to Uffington & Barnack Station signal box and two sets of block indicators of the 3-position type. One set is in the living room, which faces the line, the other in a box outside near the front door, both well-placed and clearly visible to anyone leaving the cottage. The paint on the outdoor set had worn off and the wording was difficult to read. When a train has been accepted on the block the corresponding crossing indicators show "approaching" and when the "train on line" indication is shown on the block they indicate "in."

The normal block section is between Helpston West and Uffington & Barnack, 3¾ miles, as Uffington Ballast Sidings box is open only from 7.45 a.m. to 3.45 p.m., Mondays to Fridays, or to 11.45 a.m. on Saturdays. Opening the box does not affect the block indicators, and as there is no telephone to the gatehouse the crossing keeper has no intimation when the length of the section becomes altered.

Road traffic has increased of recent years, and an average of 60 gate openings per day was recorded in October, 1948. Most are in daylight and there are seldom any required at night.

The Course of Events

At about 7.50 a.m. the gatekeeper's son-in-law was attending to his lorry nearby when another drew up and the gatekeeper came out, telephoned to the signal box at Uffington & Barnack Station, let the lorry pass over the line and closed and re-locked the gates. At 8 a.m. she came to the back door, asked her son-in-law if he were ready to go, and was told he was. She passed through the gatehouse and, coming out of the front door, opened the gates. The lorry started over the crossing and was followed by a farm labourer driving a cart and leading by tether another horse and its cart. The labourer said he had just got the first horse across when the collision occurred. When the police arrived at 8.30 a.m. they checked the visibility, which was 45 yd.

The driver of the train said they left Helpston at 7.55 a.m. and the signals at the Ballast Sidings were off. It was very foggy. He saw the gates in silhouette and what appeared to be a horse and cart, but no red light on the gate. He whistled, but could not stop in time and knew he had run through the gates. When he had nearly stopped he released the brake and continued forward, whistling periodically, intending to stop further on to protect against traffic in the opposite direction. As his fireman could not open the detonator box he proceeded to the station and reported the accident.

His fireman confirmed this evidence. The signalman at Helpston West box said that he received "entering section" for the train at 7.20 a.m. and although it was booked to shunt at his station for 25 min. offered it at once to Uffington & Barnack and it was accepted. It proceeded forward at 7.55 a.m., when "entering section" was sent for it. This was, however, received at the Ballast Sidings box, which had opened at 7.45 a.m. He considered his action correct, but the train register book showed that the other signalmen were not in the habit of offering a stopping freight train until it was ready to leave.

The signalman at the Ballast Sidings actually switched his box in circuit at 7.46 a.m., when visibility was, he thought, 25 yd., and found that the train had been accepted. At 7.50 a.m. Uffington & Barnack asked where it was and he replied that it had not left Helpston At 7.55 a.m. he received "entering section" and at 8.1 a.m. the train passed. At 8.10 a.m. he learned of the accident.

The signalman at Uffington & Barnack Station said that at 7.50 a.m. the gatekeeper telephoned asking whether lorries could be allowed to cross, and he spoke to the Ballast Sidings and learned that the train was not yet in section from Helpston; he passed this information on. Shortly after 8 a.m. the gatekeeper's daughter telephoned that the gates had been run through and a minute later asked for all trains to be stopped, but he took no action until the driver arrived with the news at 8.7 a.m. He telephoned to the Ballast Sidings but did not send "obstruction danger." The gatekeeper spoke to him regularly in bad weather regarding the running of trains and always rang up in fog or after dark. She had not spoken to him again after 7.50 a.m.

The Helpston stationmaster spoke highly of the deceased gatekeeper's reliability, steadiness, and care, saying she always looked at the indicators before allowing vehicles over and would not permit that when a train was approaching. She did not take risks and always locked the gates again after vehicles had passed. They were in good condition and the catches and bolts in good order. The indicators and telephone were also in order.

The inspector dealing with signalmen and traffic matters had examined the gatekeeper on February 2, 1948, and found her knowledge of the rules satisfactory. She said that if the indicators showed "approaching" or "in," or if she had any doubt, she spoke to the signalman before opening the gates. She appeared to be a sensible woman who carried out her duties strictly according to rule and had the reputation of being careful.

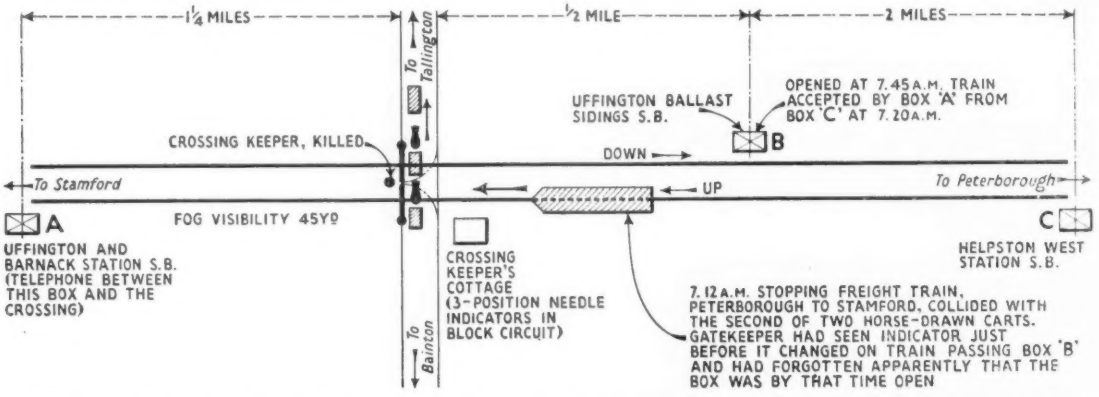

1¼ MILES
½ MILE
2 MILES
To Tallington
UFFINGTON BALLAST SIDINGS S.B.
OPENED AT 7.45 A.M. TRAIN ACCEPTED BY BOX 'A' FROM BOX 'C' AT 7.20 A.M.
B
CROSSING KEEPER, KILLED
DOWN
To Stamford
UP
To Peterborough
FOG VISIBILITY 45YD
A
C
UFFINGTON AND BARNACK STATION S.B. (TELEPHONE BETWEEN THIS BOX AND THE CROSSING)
CROSSING KEEPER'S COTTAGE (3-POSITION NEEDLE INDICATORS IN BLOCK CIRCUIT)
HELPSTON WEST STATION S.B.
7.12 A.M. STOPPING FREIGHT TRAIN, PETERBOROUGH TO STAMFORD, COLLIDED WITH THE SECOND OF TWO HORSE-DRAWN CARTS. GATEKEEPER HAD SEEN INDICATOR JUST BEFORE IT CHANGED ON TRAIN PASSING BOX 'B' AND HAD FORGOTTEN APPARENTLY THAT THE BOX WAS BY THAT TIME OPEN
To Bainton

Diagram illustrating circumstances of the accident at Bainton public level crossing, L.M.R., on November 23, 1948

Inspecting Officer's Conclusion

The accident was the result of failure of the gatekeeper to ascertain the position of the train before opening the gates to allow her son-in-law's lorry and the carts to pass. She had spoken to the signalman at Uffington & Barnack 10 min. previously, before allowing the first lorry to cross. It is probable that when she went to the gates on the second occasion she forgot that the Ballast Sidings box was by then

open, and thought, from the indicators, that she had plenty of time. They would have been showing "approaching" since 7.20 a.m. and would not have changed to "in" until 8.1 a.m.; it is reasonable to assume they were still showing "approaching" when she left the cottage the second time.

The opening of the Ballast Sidings box materially altered the meaning conveyed by the indicators, and the gatekeeper unfortunately did not appreciate this significant change. She was 52, with a high reputation for conscientious and careful work, and had been 6½ years at this crossing.

The driver cannot be criticised for failing to stop before reaching the crossing, but should not have proceeded on his journey without ascertaining the damage to the crossing and his train. Having verified that his train was undamaged and the other line obstructed, he should have run his train forward for his fireman to protect it under Rule 180. No doubt the poor visibility influenced his decision not to stop.

The prompt action of the gatekeeper's daughter in telephoning was particularly creditable, but the signalman at Uffington & Barnack was slow to act; on receipt of her message he should have sent "obstruction danger" immediately.

Remarks and Recommendations

Although the block regulations require "is line clear?" to be sent forward when "entering section" is received, there appears to be no reason why this should apply to freight trains shunting at a station. Unnecessarily early acceptance is clearly undesirable, especially as long delays between acceptance and the arrival of trains may lead gatekeepers to take unwarranted risks.

The periodic opening of the box ½ mile away, without warning of the change of the block sections being given at the crossing, should receive attention. The period of warning of the approach of the train was reduced from 8 to 2 min. when the box opened, and it is probable that the gatekeeper forgot about that. It is recommended that a telephone to the Ballast Sidings box be provided and the signalman be instructed to advise the gatekeeper when the crossing is open, to avoid possible misunderstanding. As the box is frequently closed the extension of the telephone to Helpston West also should be considered.

Although a regular gatekeeper should soon become accustomed to the working, it is desirable that written instructions be issued and kept in a place where they can be readily studied. Conditions vary greatly, and with the sidings closed the gatekeeper has ample warning of up trains, but when they are open the situation is very different. The gatekeeper should have clear advice regarding the conditions under which the gates may be worked.

Repeater block bells would give warning of a change in block conditions, but would not appear essential if the recommendations already made are implemented. A red target and lamp on each gate, showing in both directions, should be provided, in accordance with the requirements; and, in view of the increased road user and frequency of rail traffic, the added protection of worked distant signals, interlocked with the gates, is worthy of consideration.

Staff & Labour Matters

Lodging Turns for Trainmen

A minor repetition of the difficulties which arose last June concerning lodging turns for locomotive drivers and firemen occurred on Sunday, August 14, when footplate staff at two motive power depots, York and Grantham, staged a token strike in support of the attitude of a Grantham crew who refused to complete a lodging turn which they commenced to work on August 9.

When normal working was resumed on June 19, after the earlier dispute regarding lodging turns, the way became clear for the resumption of negotiations between representatives of the Railway Executive and representatives of the N.U.R. and A.S.L.E. & F. on the question of the lodging turns which had been the cause of the controversy. The Grantham turn, which was responsible for the failure of certain drivers and firemen to take duty last Sunday, was one of the turns agreed at the discussions between representatives of the Railway Executive and the unions concerned.

The stoppage of work at the two depots was not complete. About 20 per cent. of the Grantham drivers and firemen, and 30 per cent. of the York men, reported as usual for duty. Staff at other depots in the Eastern and North Eastern Regions refused to participate in the dispute, and it is understood that they have decided to await the result of the special delegate meeting of enginemen which has been called for Thursday, August 18, at York.

Wages Claim

Meetings of the Conciliation Board set up by the Minister of Labour, under the Chairmanship of Sir John Forster, to consider rates of pay and conditions of service of conciliation and salaried grades covered by the machinery of negotiation for railway staff, which commenced on August 8, continued each day until August 12, and were resumed again on Monday last.

Notes and News

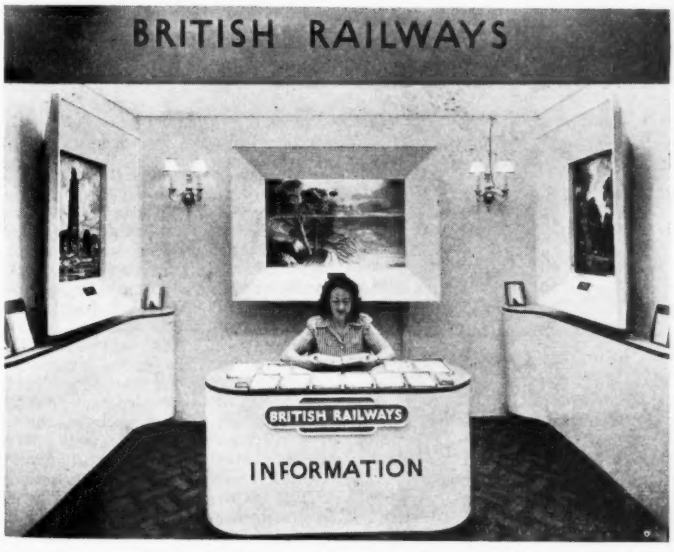
Aldershot & District Traction.—A final dividend of 12 per cent., with a bonus of 7½ per cent., making 27½ per cent. for the year ended May 31 last, is recommended by the Aldershot & District Traction Co. Ltd. The net profit, allowing for taxation, was £102,348 against £160,898 for the previous twelve months. The sum of £50,000, against £100,000 has been allocated to general reserve.

Marshall Funds for French Railways.—An Agency report states that the Economic Co-operation Administration has agreed to advance to the French Government thirty milliard francs of Marshall Aid counterpart funds, according to the French Finance Minister. An official of the United States Embassy stated that part of the funds would be used to cover the operating deficit of the S.N.C.F.

Canadian Pacific Dividend.—At a meet- of the Canadian Pacific Railway directors on August 8, a dividend of 2 per cent. on the ordinary capital stock for the year 1949 was declared, payable in Canadian funds on October 1, 1949. The directors call attention to the fact that the heavy disproportion between railway expenses and revenues still contiues and that no relief has yet been given in respect of the application for an increase in freight rates. This interim dividend is paid wholly out of other income of the company.

Railway Bands to Compete for Championships.—Two railway bands, runners-up in the nation-wide series of *Daily Herald* area brass band championships held earlier this year, will take part in the national finals at Belle Vue, Manchester, on September 17. They are Exeter & District Southern Railway Band (conductor, Mr. L. O. Huxham), which will bid for the 2nd Section National Championship, and Darlington British Railways Band (Mr. F. Tomkins), which will contest in the 4th Section. Later in the year, Edge

British Railways Information Stand at Harrogate



Stand designed by the North Eastern Region, British Railways, for the British Medical Association exhibition at Harrogate

Hill British Railways Band (Mr. N. Jones) will go to London to compete for the National Brass Band Championship of Great Britain at the Royal Albert Hall (November 12).

B.E.A. Special Reduced Fares.—Following the successful introduction of reduced fares on certain services, British European Airways are offering special reduced fares on its London-Switzerland services from December 10, 1949, to March 31, 1950. The London-Basle return will be £23, instead of £27, and London-Zurich return £24, instead of £28 16s.

Road Haulage Original Permits.—A preliminary survey has been made by the Road Haulage Association of the results of the drive to ensure that as many hauliers as possible were given full information about the importance of original permits and the need for making applications without delay. This shows that, altogether, 70,403 circulars were issued from area offices, and that every area was working at full pressure throughout July, while the number of applications handled individually was 8,815. Almost as many applications again were sent in as a result of information given verbally and contained in the circulars. Many hauliers who would have been entitled to original permits either did not apply or applied too late. Other cases came to light in which the ownership of the business had altered, resulting in the likely loss of the right to apply for a permit, and in all such cases the operators have been advised to submit applications with a covering letter.

Sloane Square Station Reconstruction Begun.—Preliminary work has now begun on the reconstruction of Sloane Square Station on the Metropolitan and District Lines which was virtually destroyed by enemy action in 1940. The present work is limited to clearing the site of the original station and involves the removal of the temporary ticket-hall and stairs which have served since 1940. A new temporary entrance and ticket-hall have, therefore, been opened in Holbein Place, and are linked to the platforms by staircases from a new footbridge over the tracks. The bombed station, which had been rebuilt only a few months before the damage was done, incorporated escalators direct from the platforms to street level, which was an innovation for Underground stations. When the station is rebuilt it is the intention of London Transport to restore this facility.

Irish Air Lines.—Aer Lingus, in which B.E.A. and B.O.A.C. have holdings of 30 per cent. and 10 per cent., had an operating loss of £162,850 in the year ended March 31 last, as compared with £612,432 in the previous year. This reduction of approximately £450,000 was achieved by reduced operating expenditure of £200,000 and by an increase of £250,000 in revenue.

Australian Rail Orders for France.—The French steel producers Acieries de Longwy and Acieries de Micheville have received an order for 20,000 tons of rails from the Government of New South Wales, totalling £1,000,000 sterling. At the same time, the French Price Control Office announced that the price of rails was lifted from fr. 21,960 to fr. 23,280 a ton (basic prices—exclusive of freight charges).

Machine Tool Display at Glasgow.—The firm of Alfred Herbert Limited, Coventry, is holding an exhibition of machine tools and equipment at Montrose Avenue, Hillington, Glasgow, from September 1-17. A number of Herbert and Edgwick machines, together with Archdale radial and upright drilling machines and milling machines, will be shown in operation using Ardoloy tipped drills and cutters. There will also be an extensive display of small tools and measuring equipment.

Glenfield & Kennedy.—Mr. Hugh Cowan-Douglas, Chairman, presiding at the annual general meeting of Glenfield & Kennedy Limited, reported a full order book and a large proportion of orders for overseas. Their latest trading result showed an improvement over the previous year of almost £100,000 although in respect only of nine months for the parent company and two subsidiaries. Their financial position remained strong. Taxation, however, took 55 per cent. of the net profit, and they could only express concern at the burden placed on industry by heavy governmental expenditure, and protest against the profits tax. To meet the increase in cost of replacements and plant, the Government had given some help in the form of the initial allowance. This, however, was merely an interest-free loan to cover part of the cost; final liability for tax was not affected unless the rate of tax varied.

Tangyes Limited.—A representative display of the products of Tangyes Limited will be shown at the Engineering & Marine Exhibition at Olympia this month. These will include a horizontal diesel engine of 28 b.h.p. and a vertical engine of the VCR type, two AR type centrifugal pumps of sizes 1½ in. and 6 in., universal power press of 60 tons capacity, three sizes of hydraulic test pumps, patent heating stoves, testing machines, slewing and service presses, etc.

Great Western of Brazil Railway Co. Ltd.—The resolution ratifying the agreement for the rescission of the Great Western of Brazil Railway Co. Ltd.'s contract was duly passed at the adjourned meeting of the holders of the 5½ per cent. debenture held on August 10. This completes the steps to be taken by the company to ratify the agreement, and the Brazilian Government is being so informed through its Ambassador in London.

Sheep Overcrowding.—At Brighton on August 11, the Railway Executive was fined £400, with 10 guineas costs, for causing unnecessary suffering to 80 sheep through overcrowding in two trucks on a journey from Fakenham, Norfolk, to Brighton, on April 8. It was stated that on arrival at Brighton, after a continuous journey of 21 hr., four sheep were found dead from asphyxia and another five so badly injured that they had to be destroyed. The overcrowding is being investigated by British Railways.

Beacon Motor Services.—Beacon Motor Services (Crowborough) Limited has been registered as a private company with a capital of £20,000 in £1 shares, to adopt an agreement between Mr. L. B. Atkins and Southdown Motor Services Limited and Maidstone & District Motor Services Limited for acquiring the business of Beacon Motor Services. The Directors include Mr. R. P. Beddow (Director of British Electric Traction Co. Ltd.) and Mr. H. A. Short, who for the past few months has been Acting Deputy Chief Regional Officer, Southern Region, British Railways.

Morgan Crucible Company.—Group profits of the Morgan Crucible Co. Ltd. for the year ended March 31 were £1,413,135, as compared with £1,506,758 for the previous year, while the net profit was £650,987, against £599,533. Net profit of the parent company was £540,380, against £522,937, to which is added £112,473 brought forward, while an amount of £275,000, against £175,000, is allocated to the general reserve. Last year £100,000 was allotted to rehabilitation reserve. An ordinary dividend of 12½ per cent., the same as for the preceding year, is proposed, leaving £148,808 to be carried forward. Consolidated assets exceed liabilities and provisions by £2,515,000. Mr. P. Lindsay, Chairman, in his statement circulated with the report, said that, although markets had become more competitive, they had failed, largely for reasons beyond their control, to arrest the rising trend of costs. While some

Sloane Square Station in 1940

Sloane Square Station as it was after rebuilding in 1940 *and a few months before its destruction by enemy action (see paragraph above)*

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 *and* 50, *inclusive, or a woman between the ages of* 18 *and* 40, *inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order,* 1947, *or the vacancy is for employment excepted from the provisions of that Order.*

RAILWAY DRAUGHTSMEN required for design of Roller Bearing Axlebox equipment for Locomotives and Rolling Stock.—Please apply by letter to British Timken Ltd., Cheston Road, Aston, Birmingham, 7.

THE FIRST PASSENGER RAILWAY. By Charles E. Lee. A history of the Swansea & Mumbles Railway, which extends over 136 years. Cloth. 8¼ in. by 5¼ in. 91 pp. Illustrated. 5*s*. By post 5*s*. 3*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE WORK OF THE RAILWAY CLEARING HOUSE, 1842-1942. An account of the development and extent of the activities of this famous British railway institution. Paper. 9½ in. by 6 in. 24 pp. Illustrations. 2*s*. 6*d*. By post 2*s*. 8*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiments. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2*s*. Post free 2*s*. 3*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Tyne Improvement Commission

THE Tyne Improvement Commissioners invite applications from qualified persons for the position of Chief Engineer in succession to the late Mr. A. L. Harvey, M.I.C.E. Applicants must be Members or Associate Members of the Institution of Civil Engineers and should have had comprehensive experience in responsible positions in dock and harbour construction and maintenance and should have mechanical engineering experience of dock and harbour plant. The Chief Engineer will be responsible for the designing and execution of all the engineering works of the Commissioners as well as the supervision of the carrying out of large new works by contract and of smaller works undertaken departmentally. The person appointed will be required to reside in the district and devote himself exclusively to the service of the Commissioners. Salary—£1,750 per annum, rising by annual increments of £100 to a maximum of £1,950 per annum. The person appointed will be subject to the provisions of the Commissioners' Superannuation Scheme. Applicants must not be less than 35 years of age and not more than 50 years of age on the 1st September, 1949. Applications, in an envelope endorsed "Chief Engineer," with details of training, qualifications, previous employment and present position accompanied by copies of three recent testimonials and a medical certificate should be addressed to the undersigned by not later than the 23rd September, 1949. Canvassing will be a disqualification. By Order, J. K. McKendrick, Secretary.

Tyne Improvement Commission,
Bewick Street,
Newcastle-upon-Tyne, 1.
3rd August, 1949.

STATION DESIGN. A striking example of modern British practice at the important wayside station of Luton. Reprinted from *The Railway Gazette*, July 7, 1944. Price 1*s*. Post free 1*s*. 2*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE EVOLUTION OF RAILWAYS. Second edition, revised and enlarged. By Charles E. Lee. Traces the germ of railways back to Babylonian times. Cloth. 8¼ in. by 5¼ in. 72 pp. Illustrated. 6*s*. By post 6*s*. 4*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY STORE METHODS. By W. H. Jarvis, Great Western Railway. The necessity for training officers—Organisation of stores department—Stores accounts. Cloth. 7¼ in. by 5 in. 116 pp. With diagrams. 4*s*. By post 4*s*. 3*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

SECTIONED PERSPECTIVE VIEW OF LOCOMOTIVE FRONT END. A notable drawing of L.M.S.R. class "7P" 4-6-2 locomotive of the latest type. Reprinted from *The Railway Gazette*, June 15, 1945. Price 2*s*. 6*d*. Post free 2*s*. 8*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY SIGNALLING AND COMMUNICATIONS INSTALLATION AND MAINTENANCE. A practical guide, especially intended to help Signal Inspectors, Installers, Fitters, Linesmen, Draughtsmen, and all concerned with installing and maintaining Signal, Telegraph, and Telephone Equipment. 416 pp. Many illustrations. Cloth. 8*s*. By post 8*s*. 6*d*. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

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items of expenditure on external account were declining, internal expenditure, such as wages and social services, had risen. The high rate of income tax, coupled with profits tax, raised costs and thus impeded efforts to penetrate the competitive markets overseas. The fall in profits was not due to any serious drop in sales. Their export trade had shown an encouraging increase, and would have increased further but for exchange and other controls and shipping difficulties.

Welding Exhibits at Olympia.—At the Engineering & Marine Exhibition which is being held at Olympia from August 25 to September 10, several new welding developments will be demonstrated by Murex Welding Processes Limited, including the latest type of Murex 300/400 amp. diesel-engine-driven equipment fitted with a new cartridge starter. Another exhibit will be the Murex 150-cycle alternator set which is a new four-operator equipment having an output of 300 amp. per operator. In this, the alternator is excited by a magnicon exciter which maintains the voltage within very accurate limits, and the use of a frequency as high as 150 cycles enables steadier arc conditions to be maintained and facilitates arc manipulation. This frequency also makes possible smaller and more portable regulators. Electrodes from the very extensive Murex range will also be exhibited.

Return of Class "8" Locomotives.—In 1947 the Railway Executive Committee was notified of certain W.D. locomotives that were surplus to requirements in the Middle East and arrangements were made for an inspector from the Chief Mechanical Engineer, London Midland Region, Derby, to examine them in their various locations, to ascertain how many were in a suitable condition for further work in this country. As a result of this inspection, arrangements were made for thirty-nine Class "8" 2-8-0 freight locomotives and four spare 4,000 gal. tenders to be returned to this country. The locomotives are now undergoing repairs at Crewe before going into service on the L.M.R., and the first of them, No. 48045, is in traffic. Ten of the locomotives were originally in L.M.S.R. stock and formed part of a total of 51 locomotives of this type that were sold to the Ministry of Supply in the early war years. The remainder of the locomotives returned were built to L.M.S.R. designs by private firms and purchased direct by the Ministry of Supply.

Southern Region Signal & Telecommunications Technical Society.—For the benefit of Southern Region drawing office, workshop, and outdoor staffs, a Signal & Telecommunication Technical Society has been formed, which is affiliated to the parent body, the Institution of Railway Signal Engineers. The object of the Society is the furthering of knowledge relating to railway signalling and telecommunications, by discussions, lectures, and visits to works and installations. Membership is open to all staff, active, or retired, of the Signal & Telecommunications Department, Southern Region, and the annual subscription is 2s. 6d. The Secretary is Mr. G. C. Coles, Signal & Telecommunications Engineer's Department, British Railways, Southern Region, Wimbledon, S.W.19. Visits have already taken place to: Harrow-on-the-Hill London Transport Executive signalling installation; Westinghouse Brake & Signal Co. Ltd.'s works at Chippenham; signalling installation and signalling school at Bristol, Western Region.

Euston Station Collision Inquiry.—Colonel R. J. Walker, Inspecting Officer of Railways, on August 16 conducted an inquiry into the collision between two trains at Euston Station on August 6, which we reported last week. A Euston to Manchester train, standing in platform 13, was run into by an empty Euston to Liverpool train. Twenty-five passengers, two railway employees, and seven catering staff were injured and taken to hospital. Mr. W. B. Shelton, Divisional Operating Superintendent, L.M.R., described the system of bell signals between two signal boxes controlling the movement of trains in and out of platforms. He said that there was no form of indication which platforms were blocked. At times the platforms could be seen easily from the boxes. A slate in the box was used to indicate what trains were in. A British Railways official said that a fully protective scheme for Euston, which went beyond ordinary track circuiting, had now been completed and approved by the Ministry. It would no doubt be carried out soon.

Ticket and Passenger Enquiry Offices.—More of British Railways London ticket and passenger enquiry offices, which were closed during the war, are to be re-opened as soon as the necessary structural alterations and repairs can be carried out. These offices will include the premises at The Spread-Eagle, Sherwood Street, Piccadilly; King William Street; 170B, The Strand; 107, Oxford Street, and at Sloane Square. All passenger travel matters will be dealt with, including the reservation of seats, or sleepers, on all Regions. London offices already re-opened are 7 & 8, Charing Cross; 79, Regent Street; and 110, Victoria Street opened in June last.

Display of Nickel Alloys.—The Mond Nickel Co. Ltd. will again be exhibiting at the Engineering & Marine Exhibition which opens on August 25. The stand will show how nickel alloys can assist engineers by supplying special combinations of properties for service in different fields. The exhibit will also show how nickel-containing materials provide resistance to heat, corrosion, and wear, combined with strength and ease of production. A comprehensive range of technical publications will be available. Development and research department staff will be present to give advice on metallurgical problems. On the same stand Henry Wiggin & Co. Ltd. will demonstrate the Nimonic series of nickel-chrome alloys and the Nilco series of nickel-iron alloys. There will be examples of seamless linking of which accelerated delivery is now possible.

Third International Gas Turbine Course.—On August 15, the third international gas turbine course arranged by Power Jets (Research & Development) Limited opened at the School of Gas Turbine Technology, Lutterworth, and will continue for three weeks. It is intended that the course shall cover various applications of the gas turbine for aero engines and industrial purposes and lectures are being given by experts from outside

sources. Students attending the present course, representing a dozen countries in three continents, were welcomed at the offices of the company at 25, Green Street, London, W.1, on Sunday, August 14, by Mr. W. E. P. Johnson, Managing Director, who after an informal luncheon explained the connection between Power Jets (Research & Development) Limited and gas turbine progress. The company is owned by the British Government and operates as a private company under the auspices of the Ministry of Supply.

Great Northern Railway (Ireland).—On August 29, Mr. W. B. Maginess, Minister of Commerce, Northern Ireland, together with Government transport officials, will meet trade union leaders from Dublin in Belfast to discuss the financial crisis of the Great Northern Railway, which we have referred to in recent issues.

Railway Students' Association.—The committee of the Railway Students' Association, London School of Economics & Political Science, has arranged a social outing in the form of a motorcoach tour through East Sussex. The tour will be circular, leaving Tunbridge Wells Central Station, Southern Region, at 2.15 p.m. on Saturday, September 17, and arriving back at approximately 4.30 p.m. for tea.

English Steel Corporation Products.—An exhibit which will undoubtedly catch the eye on the English Steel Corporation stand at the Engineering & Marine Exhibition will be a machined forged gear wheel rim, 11 ft. 9 in. dia., which towers over one end. Examples of engineering products of E.S.C. will include propeller shafts and a diesel engine crankshaft 10 ft. long. A large selection of small tools and permanent magnets, files, and hacksaws, will complete the display.

Conference on Foundry Steel Melting.—The Steel Castings Division of the British Iron & Steel Research Association announces that a conference on foundry steel melting will be held on September 22 and 23 at Ashorne Hill, Leamington Spa. The technical and economic aspects of the various processes and their relative merits will be discussed. Mr. Richard Lamb, Research Metallurgist and a local Director of Hadfields Limited, will preside.

British Railways Insulated Fish Vans.—The Railway Executive has decided to insulate 1,000 of its fish vans. Insulating material, covered with metal-faced plywood, will be used to line the inside of the vans and the sliding doors, which will replace the existing swing doors. Flexible gaskets will make the vans practically airtight when the doors are closed. The insulation will enable a low temperature to be maintained, while the metal-facing will facilitate cleaning, thereby ensuring greatly improved transport conditions. The work of conversion will be carried out in British Railways workshops as quickly as practicable.

Forthcoming Meetings

August 19 (*Fri.*) - 27 (*Sat.*).—Model Engineer Exhibition, 1949, at New Horticultural Hall, Vincent Square, Westminster, S.W.1. Open 11 a.m. to 9 p.m.

August 25 (*Thu.*) to September 10 (*Sat.*).—Engineering and Marine Exhibition, incorporating the Welding Exhibition, at Olympia, London. Open 11 a.m. to 9 p.m.

Railway Stock Market

After their recent heavy fall British Funds have shown a strong rally in which gains of up to 45s. were recorded on Monday in some of the long-dated stocks. The rally was attributed more to the end of the recent steady selling than to a revival of demand. Various views were current and there appeared to be less pessimism regarding the outcome of the Washington conference next month, and also less talk that devaluation of sterling may be inevitable. If Sir Stafford Cripps were able to devise ways and means of solving the dollar crisis for the time being, and the Washington talks cleared the way for improving exports to the U.S.A., markets would probably rally strongly. Should the Washington talks fail, however, markets would be expected to suffer a further general reaction. British Funds are benefiting meanwhile from growing hopes that devaluation of sterling will not be proposed unless there were a general revaluation of all European currencies in relation to the dollar. Prevailing belief is that no general revaluation of currencies is likely until next year. The rally in British Funds has benefited stock markets generally and gains of up to 1s. have been scored by leading industrial shares.

There was less business in foreign rails and prices as a result lost a little ground. United of Havana 1906 debentures, after their recent rise, have come back sharply to 12, and Brazil rails were sold on fears that Brazil may not finally ratify the terms for taking over the Leopoldina and Great Western of Brazil railways until early next year. Great Western of Brazil have receded to 137s. 6d. and are now well below their estimated take-over value. Leopoldina issues were lower in the absence of demand.

The market hopes that the company will be able before long to arrive at pay-out terms for individual stocks although it is realised that they are difficult to determine because of the rights of the various classes of debentures and the substantial arrears of interest outstanding. Leopoldina ordinary and preference are 7¾ and 26 respectively, the 4 per cent. debentures 90½, and the 6½ per cent. debentures 135½. Leopoldina Terminal 5 per cent. debentures were easier at 105½ and the ordinary £1 units were quoted at 2s. 10½d. San Paulo at 125 was lower on balance. Antofagasta has been firmer at 7, with the preference stock at 55½, but Manila "A" debentures receded to 85 and the preference shares to 6s. 6d. Buenos Ayres Central 4½ per cent. debentures changed hands at close on 60 and Nitrate Rails bearer shares marked 58s. 1¼d. French railway sterling bonds have been more active, and Midi and Orleans changed hands around 93, while Nord were 102½. Canadian Pacifics reflected the better trend in dollar stocks, but failed to keep best prices, easing later to $19¼. The 4 per cent. preference stock was 59 and the 4 per cent. debentures slightly better at 98½. Beira Rail bearer shares were 50s. 9d. and Mexican Railway 6 per cent. debentures 42½.

Shares of road transport companies have been firm generally, but there was a sharp decline in Scottish Motor Traction to 92s. 6d., on fears that the fall in Gilt-edged prices will affect the compensation payable to shareholders. Lancashire Transport were 80s., Southdown 116s. 3d., and West Riding 73s. 9d. B.E.T. deferred stock fluctuated, but, after dropping to £1,500, rallied to £1,520.

Iron and steels remained very quiet, although United Steel eased to 25s. 10½d., and Stewarts and Lloyds to 52s. 10½d. Dorman Long have been steady at 28s. 6d. and Colvilles 32s. 6d. Colliery shares attracted rather more attention now that the Government has decided to continue payment of interim income to the companies. Powell Duffryn at 26s. 9d. were better on hopes that the forthcoming results may show the dividend unchanged. Guest Keen were firmer at 37s. 6d., as were Babcock & Wilcox at 57s., and the new shares of both companies were again slightly higher. There were only small movements in the locomotive building and engineering section. Vulcan Foundry were 17s. 9d., North British Locomotive 17s. 7½d., Wagon Repairs 17s., Beyer Peacock 18s., and Gloucester Wagon 43s.

Traffic Table of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1947/48	No. of week	Aggregate traffics to date: Total 1948/49	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta... ...	811	7.8.49	59,680	+ 30,400	31	2,105,340	+ 446,330
	Costa Rica	281	June, 1949	36,466	+ 1,271	52	431,896	+ 47,058
	Dorada	70	June, 1949	21,562	— 14,938	26	170,605	+ 28,405
	G.W. of Brazil ...	1,083	21.5.49	19,200	— 10,600	20	755,800	+ 1,200
	Inter. Ctl. Amer. ...	794	June, 1949	$1,141,887	+ $73,006	26	$6,590,515	— $475,619
	La Guaira	22¾	June, 1949	$95,586	— $20,726	23	$651,515	+ $11,222
	Leopoldina	1,902	28.5.49	43,288	+ 3,864	21	965,094	— 155,382
	Nitrate	382	31.7.49	21,484	+ 4,092	30	260,651	+ 86,088
	Paraguay Cent. ...	274	5.8.49	₲144,908	+ ₲46,056	5	£721,697	+ ₲172,715
	Peru Corp. ...	1,059	July, 1949	226,454	+ 47,512	4	226,454	+ 47,512
	Salvador	100	May, 1949	c94,000	— c9,000	48	c1,884,000	— c6,600
	Taltal	154	July, 1949	10,660	+ 650	4	10,660	+ 650
	United of Havana ...	1,301	11.6.49	$231,311	+ $14,746	49	$13,733,928	— $4,659,951
Canada	Canadian National...	23,473	June, 1949	10,147,250	+ 220,250	26	59,193,500	+ 2,077,500
	Canadian Pacific ...	17,037	June, 1949	7,267,250	+ 380,750	26	43,809,000	+ 3,601,500
Various	Barsi Light* ...	202	July, 1949	40,822	+ 7,522	17	134,002	+ 19,995
	Beira	204	Feb., 1949	104,917	— 6,180	22	589,461	+ 9,141
	Egyptian Delta ...	607	10.6.49	18,118	+ 275	10	135,657	+ 7,581
	Gold Coast ...	536	June, 1949	250 878	+ 43,158	13	705,477	+ 44,904
	Mid. of W. Australia	277	June, 1949	29,379	+ 3,060	52	350,879	+ 56,127
	Nigeria	1,900	May., 1949	405,849	+ 8,949	8	845,438	— 43,716
	South Africa ...	13,347	16.7.49	1,477,287	+ 130,837	15	22,452,661	+ 2,395,772
	Victoria	4,774	Apr., 1949	1,444,898	+ 47,689	43	—	—

* Receipts are calculated @ 1s. 6d. to the rupee